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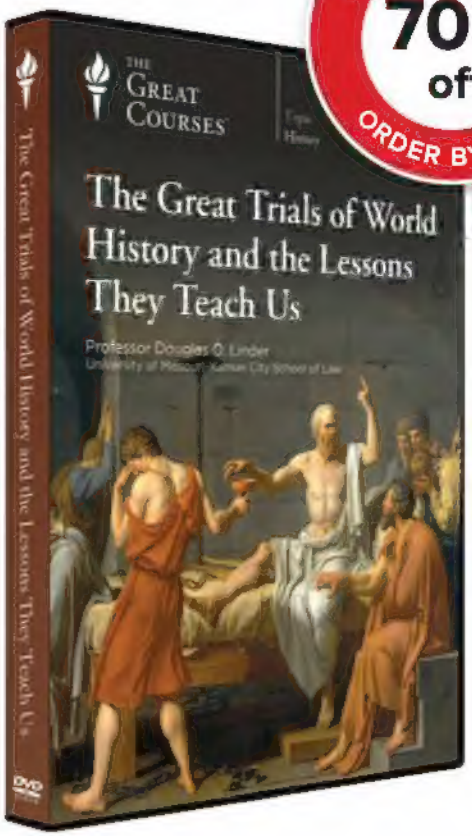

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On September 20, 1932, a click of a camera captured 11 construction workers having lunch or a smoke—while dangling their feet more than 840 feet in the air. Taken on the 69th floor of the building now known as 30 Rockefeller Plaza, "Lunch Atop a Skyscraper" exudes camaraderie and good humor, making it safe to assume that these men had no fear of heights.

Little else about these workers is known for certain. Researchers have tentatively identified a few of them: Peter Rice, a Mohawk ironworker from Canada; Albin Svennson from Sweden; Gustáv Popovic from Czechoslovakia; and Sonny Glynn and Matty O'Shaughnessy from Ireland. Roughly 40,000 people worked on the Rockefeller Center complex in the 1920s and '30s, but few personnel records survive, making conclusive IDs difficult.

In the early 20th century poverty and civil unrest often brought immigrants to the United States. Many sought economic opportunities and peaceful lives. Maybe they wanted citizenship, or maybe they would return home once they made their fortune. Despite different origins and intentions, they had much in common: a desire for a better life, the simple enjoyment of a lunch break, and nerves of steel to seek both on a skyscraper.

Amy Briggs

Amy Briggs, Executive Editor

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HISTORY

VOL. 4 NO. 2

SECOND TRY
A year after their shocking defeat at Puebla on May 5, 1862, French forces return to attack the city, as depicted in this 1867 painting by J.-A. Beaucé.

Features

14 Phoenicia's Purple Reign
The Phoenicians built a Mediterranean trade empire through its most valuable commodity: a precious purple dye worth its weight in gold.

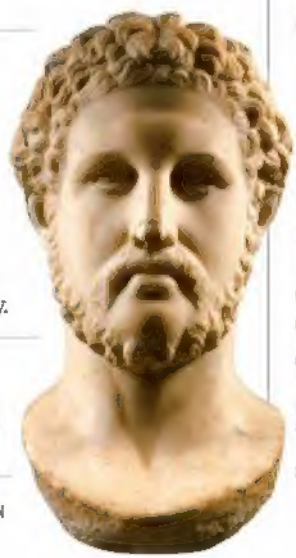
26 The Mystery Tombs of Philip II
The 1977 discovery of treasure-filled tombs in Greece lifted the lid on the life and death of Philip II of Macedon, father of Alexander the Great.

36 Roman Women on the Rise
As Rome turned from republic to empire, Roman women found new roles opening up to them in commerce and politics.

48 Alchemy's Golden Age
Shrouded in secrecy and ritual, alchemy sought to marry spirituality to science in the 1600s.

62 Victory at Puebla
On May 5, 1862, the outgunned, outmanned Mexicans were expected to lose to the French at the Battle of Puebla, but they won. Their surprise upset is celebrated every May.

74 New York City Hits the Heights
Manhattan's skyscrapers grew taller and taller at the turn of the 20th century, setting world records in a race to the top.



PHILIP II OF MACEDON, CHIARAMONTI MUSEUM, VATICAN

Departments

4 NEWS

China's first emperor sought the secret of eternal life,
as revealed by newly deciphered messages from the third century B.C.

6 ENIGMAS

Legend says a rabbi brought a golem to life in Prague
to protect the city's Jews in the 1500s. This story would grow and inspire future fantastic tales, like *Frankenstein*.

10 WORK OF ART

After bombs rained terror on Guernica in 1937, Picasso's
depiction of the horror delivered a searing denunciation of war.

90 DISCOVERIES

The somber monuments of Tiwanaku in Bolivia have
puzzled travelers for centuries. In the 1800s, scholars began to unlock their secrets to reveal a once thriving culture.

IMPERIAL IMMORTALITY

The Chinese Emperor Who Tried to Cheat Death

Newly translated letters shed light on the dual obsession of China's first emperor: To reach all corners of his new empire and to live forever.

Archaeologists in China have found that the first Chinese emperor, who reigned more than 2,000 years ago, ordered a national search for the elixir of life, a substance that would grant him immortality. A series of bamboo strips contain missives from his regional officials, who sent polite and somewhat awkward reports of their findings. These strips, part of a cache of thousands of such documents, were found in Hunan Province in central China.

One village's message deciphered by Chinese scholars hoped a local herb might fit the bill; another noted that no such elixir had yet been found, but tactfully implied they would continue the search.

Eternal Empire

Qin Shi Huang Di is perhaps best known today for the thousands of terra-cotta soldiers and horses buried in his mausoleum. Their discovery in

QIN SHI HUANG DI, born Zhao Zheng, in a 19th-century Korean illustration

AKG/ALBUM

SHIP OF FOOLS? A 19th-century Japanese woodblock print depicts the naval mission sent by Qin Shi Huang Di to find the magical herbs of longevity.

THE EMPEROR'S TERRA-COTTA ARMY (detail) near Xi'an, China

TOP: MUSEUM OF FINE ARTS, BOSTON/SCALA, FLORENCE; **BOTTOM:** STUDIOEAST/GETTY IMAGES

BOUNDLESS BRUTALITY

WITH HIS puffed-out chest like a hawk and voice of a jackal, Qin [Shi Huang Di] is a man of scant mercy," wrote historian Sima Qian in the second century B.C. Other accounts tell how Qin Shi Huang Di left his mark on captured warriors by castrating them and keeping them as eunuch slaves. The emperor's brutality extended into every area of life, including his obsessive quest to find the potion for eternal life. According to Sima Qian's account, 460 Confucian scholars—whose criticism of the emperor included his impious interest in the elixir—were brought before him and buried alive. Elsewhere, he recounts that the emperor ordered the burning of philosophical books. Modern historians believe that although the burial incident is probably myth, it does reflect Qin Shi Huang Di's hatred of scholarship, and his attempt to impose uniformity of thought over his vast imperial domains.

CONFUCIAN scholars are shown being buried alive in an 18th-century painting.
UIG/ALBUM

1974 brought him something like immortality. Born Zhao Zheng, he took the throne of the central Qin province in 246 B.C. He conquered China's six other provinces, and in 221 B.C., changed his name to Qin Shi Huang Di, which means "first sovereign emperor of Qin."

Not content with this feat, the emperor began searching for a potion that would extend his life—either by granting him immortality or extreme longevity. He sent scholars across the land as well as the sea: In 219 B.C. the emperor dispatched a naval mission to what is today Japan.

The recently deciphered bamboo strips not only reveal Qin Shi Huang Di's elixir search, they also show the extraordinary bureaucracy he created, including a sophisticated mail service across his huge empire. Although his dynasty, the Qin, collapsed just after his death, his reforms transformed China: Weights and measures were standardized and defenses were linked to create the Great Wall.

Scholars found that Qin Shi Huang Di's last years were spent in paranoid seclusion in his palaces. His search for an elixir had failed and he died in 210 B.C. Ironically, he may have hastened his death by ingesting quantities of cinnabar (mercury sulfide), believed to be life-giving but actually highly toxic.

Prague's Protector: The Golem

Strong, solid, and single-minded, golems are legendary protectors in the Jewish tradition. Made of mud and brought to life through ritual, the most famous is the Golem of Prague who patrolled the 16th-century streets of the Jewish ghetto.

The golem is supposed to be the perfect soldier: Mindless and obedient, it serves its creator without question. The fearsome creature was called forth to protect and defend Jewish communities when under threat. The most famous golem tale is set in late 1500s Prague, capital of today's Czech Republic. The truth and provenance of the story may be shrouded in mystery, but its cultural reach and influence is very solid.

Jews had settled in Prague as early as the 10th century, but they were not always welcome in the city. Persecution by Christians in the 11th and 12th centuries led to the formation of a Jewish ghetto, which would remain the center of Jewish life in Prague for centuries. Rampant anti-Semitism in the Middle Ages was fueled by outrageous beliefs about Jews, including the "blood libel," an accusation that Jews ritually sacrificed Christian children at Passover for their blood. This untruth emerged in medieval Europe and often led to persecutions.

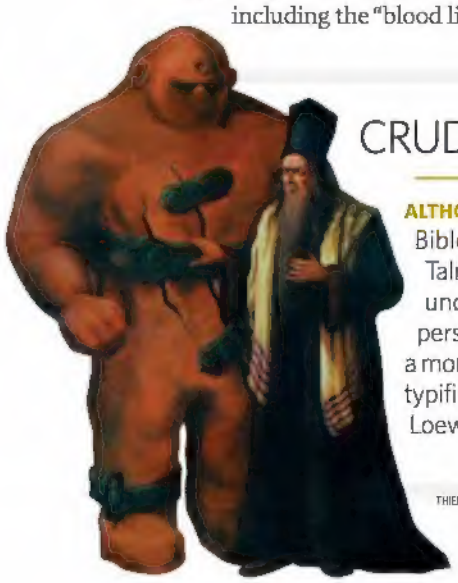
Enter the Golem

The legend of the Golem of Prague takes place in the late 16th century during the reign of Holy Roman Emperor Rudolf II. In Prague, the Rabbi Judah Loew ben Bezalel—better known as Rabbi Loew—was a prominent member of the Jewish community. A Talmudic scholar, rabbi, and philosopher, he wrote more than 20 books and became famous for his wisdom, earning him the name "Maharal," which means "great sage." Rabbi Loew takes center stage in the legend of the golem.

There are many versions of the tale, but most begin with an accusation: A Christian child has disappeared, and suspicion immediately falls upon Prague's Jewish community. Grisly rumors circulate that the Jews have kidnapped the child in order to use his blood in their Passover rituals. These rumors spark threats of violence and expulsion from the city.

In the legend, Rabbi Loew wisely recognizes the danger and fashions a golem from the mud of the Vltava River that runs through the city. He and two other rabbis sculpt a body and walk around it seven times, chanting incantations. The golem begins to glow, and then the three men recite a verse of Genesis (2:7): "Then the Lord God formed a man from the dust of

CHARACTER INFLUENCE Third in a series of films, *The Golem's* (1920) depiction of the creature as a giant man with thickset features later influenced the character design of Frankenstein's monster in the 1930s.



CRUDE AND SHAPELESS

ALTHOUGH the term "golem" appears in the Bible with the sense of "formlessness," the Talmud (Jewish commentaries on the Bible) understands the golem as an uneducated person. From this combination, a tradition of a monstrous, ugly, and clumsy figure emerged, typified in this 20th-century painting of Rabbi Loew with the golem, by Karel Dvořák.

THIERRY ESCH/GETTY IMAGES

the ground and breathed into his nostrils the breath of life, and the man became a living being."

Rabbi Loew scratches into the creature's forehead the Hebrew word *emet*—truth—and the golem comes to life. Charged by Loew with finding the missing child, it tracks down the boy and brings him before the people. The child confesses that his father had forced him to hide in their basement in order to bring about the destruction of the Jews. The case is dismissed, and the golem saves the Jews of Prague.

"Then the Lord God Formed a Man from the Dust"

JEWISH SCHOLARS have debated whether a golem might exist, or whether it serves as a symbol of how life comes about only through God's transforming power. Some scholars contrast an empty, soulless golem with the humanity of Adam. Talmudic tradition, however, considers that, for the first hours of his life, Adam was golemlike, "his dust kneaded into a shapeless hunk."

THE CREATION OF ADAM
MINIATURE FROM A 1332 ILLUMINATED MANUSCRIPT OF THE *HISTORIA SCHOLASTICA*
AKG/ALBUM

THE REAL RABBI LOEW

RABBI LOEW'S association with the golem was a 19th-century invention. In life, the chief rabbi of Prague was a revered scholar, and was on friendly terms with Holy Roman Emperor Rudolf II. In 1594 the rabbi met Rudolf to discuss alchemy. Below, his tomb in Prague's Old Jewish Cemetery.

MIROSLAV KRIVANEK FOTOSTOCK

THE NAVE OF PRAGUE'S OLD-NEW SYNAGOGUE, WHERE RABBI LOEW WORSHIPPED. BUILT IN 1270, IT IS THE OLDEST SURVIVING SYNAGOGUE IN EUROPE. ACCORDING TO LEGEND, ITS FOUNDATION STONES WERE BROUGHT BY ANGELS FROM THE DESTROYED TEMPLE OF JERUSALEM.

UIG/ALBUM

The endings of the legend vary. In some, the golem runs away. In others, he grows too powerful and rampages through the city, causing panic and destruction. To protect the city, Rabbi Loew erases one letter from the word on the golem's forehead, changing it from *emet* to *met*, which has some of the elements of the Hebrew word for death. The life force leaves the golem, and Rabbi Loew hides the remains in the attic of the Old-New Synagogue, locks the door, and forbids anyone to enter. There the golem remains, some say to be brought back to life when the Jews need protection once more.

The Golem's Influence

Although the Golem of Prague takes place in the 1500s, the story does not date to that time; scholarly consensus says that the tale originated much later, most likely in the 19th century after several authors published tales of Prague's protector.

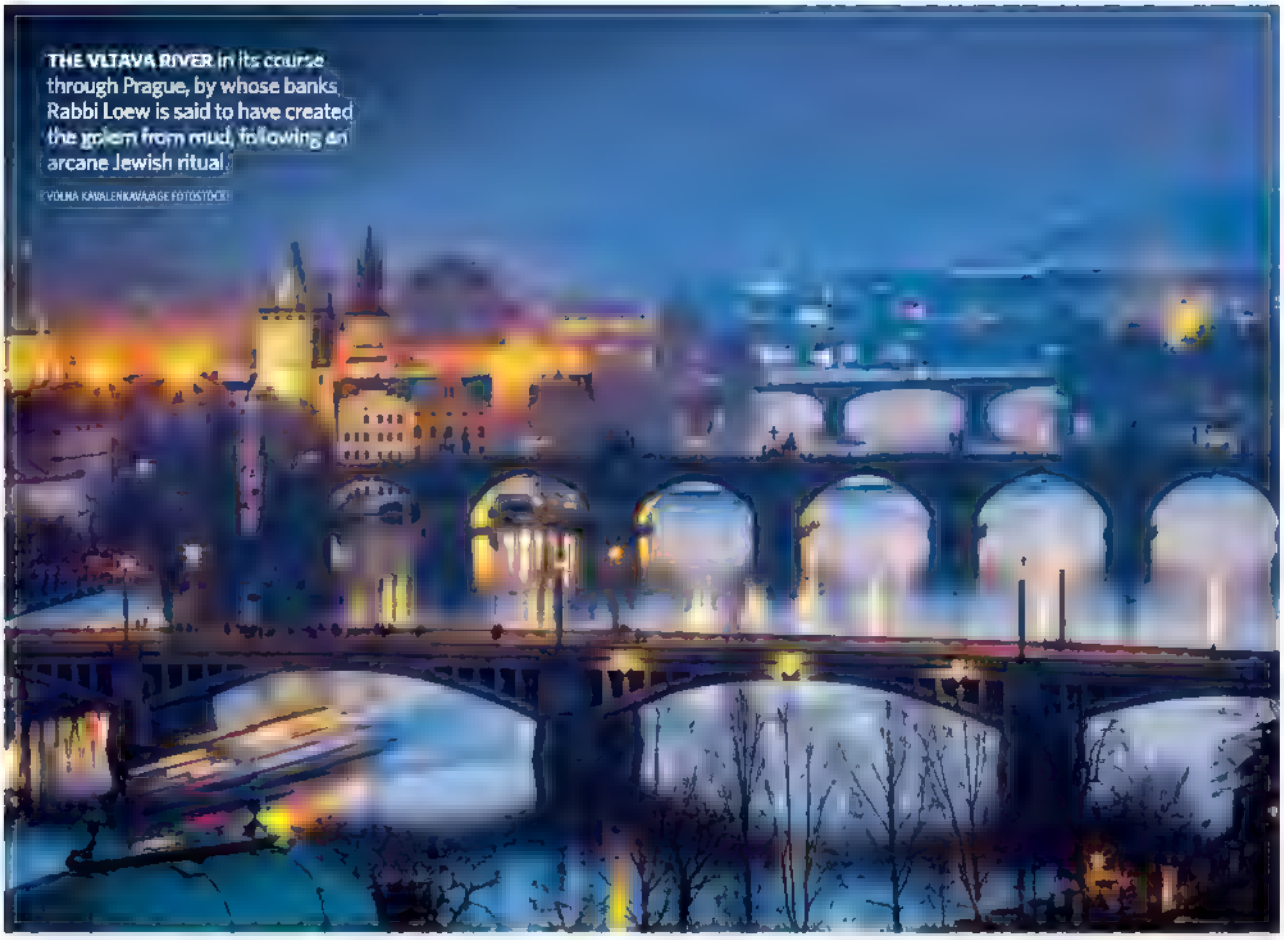
OLD-NEW SYNAGOGUE, PRAGUE, IN A 19TH-CENTURY ENGRAVING

GRANGER/AGE FOTOSTOCK

Many curious people have tried to enter the synagogue's attic to find the golem.

Multiple elements of the golem tale have deep and ancient roots in Jewish mysticism, storytelling, and culture. The word "golem" is from the Hebrew meaning unformed matter and is related to the unformed clay with which God made Adam (the name Adam itself is derived from the Hebrew word *adamah*, meaning "earth"). Monotheistic religions hold that the gift of life comes from God, and any human attempting to "play God" was a dangerous—and tantalizing—idea to medieval Jewish theologians.

Theologians believed that a learned person who possessed sufficient arcane knowledge might indeed be able to create an artificial human out of inorganic material. During the Middle Ages, the kabbalistic work *Sefer Yetzira (Book of Creation)* became a key source for the magic formulas and instructions required for bringing a golem to life.



THE VLTAVA RIVER in its course through Prague, by whose banks Rabbi Loew is said to have created the golem from mud, following an arcane Jewish ritual.

VOLHA KAVALENKAVA/AGE FOTOSTOCK

The book gave practical advice to rabbis, such as not attempting to make a golem on their own, and only using purified virgin mud. The 11th-century Spanish Jewish scholar Solomon ben Yehuda ibn Gabirol was said to have actually created a female golem, who served him food and helped him with household chores.

Tales of the golem circulated widely in Europe and seem to have entered the broader consciousness by the 19th century. In 1808 one of the Grimm brothers, Jacob, wrote a tale about Polish Jews who created golems that grew uncontrollably. In order to prevent his golem from growing too tall, one man rubs out the first letter on his golem's forehead, who then crashes to the ground and crushes him. The Romantic writers of the age—most notably Mary Shelley, in the 1818 novel *Frankenstein*—also incorporated elements of the golem legend into their stories.

Other versions of the golem story place the creature in different cities, including Chełm in Poland, with different rabbis as the creators. The Prague version of the story became the most popular after Czech writer Leopold Weisel's 1847 publication of a book of Bohemian Jewish folktales. The successful collection went through several editions and contained a version of the story that credited Rabbi Loew with the creation of the creature, despite the real Loew never being associated with the type of practices that could bring a golem to life.

The Golem of Prague also made its way into several novels, stories, and even to the big screen in the 20th century. The broad features of the story were highlighted in the 1915 German silent movie *The Golem*. Two more films—*The Golem and the Dancing Girl* (1917) and *The Golem: How He Came Into the World* (1920)—followed. Of the three, only the final installment survives

As the Golem of Prague story became more and more famous, the 13th-century Old-New Synagogue became a focus of renewed fascination for visitors to the city. The synagogue is the oldest extant synagogue in Europe and has been Prague's main Jewish place of worship for more than seven centuries. The golem legend heightened many people's curiosity about the structure, especially the attic where the remains of the golem allegedly rest. Many tales are told of those who have attempted to find it there. During World War II, in which more than a quarter of a million Czech Jews were murdered by the Nazis, stories circulated that German officers entered the attic and were later found torn limb from limb, perhaps victims of the golem.

—Javier Alonso López

① Bull
Picasso's use of a bull, a traditional Spanish symbol, is ambiguous here. Does it represent Spanish victims, or Spanish brutality?

③ Mother and Child
Wailing with grief, the harrowing figure of the mother mourning her dead child is reminiscent of Michaelangelo's "Pietà" in which the Virgin Mary cradles her dead son.

⑤ Broken Man
A dead soldier lies on the ground; eyes wide open, one arm outstretched, and one hand clutching a useless sword as terror deluges him.

④ Gored Horse
The panicked horse is one of the central figures in the painting; its wounded body blindly charges through the carnage and destruction.

The Genius of "Guernica"

While Pablo Picasso's "Guernica" was inspired by the horrors inflicted by the 1937 fascist bombing of the small town, its howl of terror has grown to stand for atrocities of war experienced all over the world.

INTERPRETING "GUERNICA"

PICASSO WAS cagey about explaining his works, and "Guernica" was no exception: "If you give a meaning to certain things in my paintings it may be very true, but it is not my idea to give this meaning. What ideas and conclusions you have got I obtained too, but instinctively, unconsciously. I make the painting for the painting. I paint the objects for what they are." Over the years, artists and critics have marveled at the painting's powerful imagery and attempted to explain it. For critic Herbert Read, it was "the modern Calvary, the agony in the bomb-shattered ruins of human tenderness and frailty." Australian critic Robert Hughes placed it within the Western art tradition as "the last great history painting. It was also the last modern painting of major importance that took its subject from politics with the intention of changing the way large numbers of people thought and felt about power."

AGE FOTOSTOCK, © SUCESIÓN PABLO PICASSO, VEGAP, MADRID, 2018

⑤ Light Bulb
Picasso added the bulb late in the mural's development. Some theorize that the light fixture is there to represent modernity and technology.

⑥ Woman at the Window
One interpretation of this figure emerging from a building with her lamp is that she represents the viewer. Her light ensures the world will know what happened here.

⑦ Wounded Woman
Desperate to escape the firestorm, she has stumbled. The odd angle of her crumpled leg makes the figure appear wounded and suffering.

⑧ Man in Terror
The terrified man's upraised arms and spread fingers call back to Francisco de Goya's 1814 anti-war painting, "The Third of May 1808 in Madrid."

Pablo Picasso had been searching for three months for something to paint in April 1937. Living in Paris, the Spanish artist had been given a commission to produce a mural for the Spanish Pavilion of the 1937 Paris World's Fair. Turmoil had disrupted his process, both in his private life and in the civil war raging in Spain. The horror of this war would give Picasso his inspiration to paint a bold, unflinching vision of the devastation and savagery of modern warfare on everyday people. Picasso's work, "Guernica," is one of the 20th century's greatest works of art and a strong statement against war.

War Crime

In July 1936 the authoritarian Spanish general Francisco Franco had launched a semi-successful coup against Spain's democratic republic; a swath of Spain fell under Franco's control, while the other half was retained by the republic. As global tensions soared on the eve of World War II, Spain's bitter civil war rapidly internationalized: The republic received aid and arms from the Soviet Union, while Franco was armed by fascist Germany and Italy.

On April 26, 1937, crew members on the British battleship H.M.S *Hood* watched warplanes assembling over the coast of northern Spain. What they saw was a mixed formation of German and Italian bombers on a mission to bomb the small

Picasso's Process

ON MAY 1, 1937, just days after the attack, Picasso made the first sketch of what would become his anti-war masterpiece. The bull and the horse were present in the earliest drafts, along with the fallen warrior beneath the horse and the woman with a lamp. Picasso had, in fact, used several of these elements in a previous work, a 1935 engraving depicting a minotaur. Although the central figures remained constant, Picasso made many revisions to the overall work. Its austere palette of black, white, and gray is said to have been inspired by the grainy quality of newsprint, reflecting that the Spanish Civil War was one of the first conflicts intensively covered by the media. After just five weeks, the vast, mural-size canvas was complete. There is a story (perhaps apocryphal) that a Nazi officer later showed Picasso a photo of the picture, and asked him, "Did you do this?" Picasso is said to have replied: "No, you did."

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PABLO PICASSO STANDS IN FRONT OF "GUERNICA," IN A 1937 PHOTOGRAPH TAKEN BY DAVID SEYMOUR.

1937

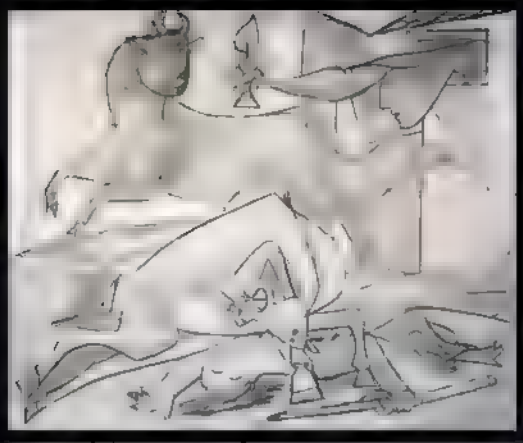
Guernica is destroyed by fascist forces helping General Franco on April 26. In exile in Paris, Picasso begins sketches for "Guernica" on May 1. The vast finished canvas debuts in the Spanish Pavilion of **Paris's World's Fair** in June.

1939

Following tours in Europe and America, Picasso places "Guernica" in the care of New York's **MOMA;** he refuses to allow it to be shown in Spain until the dictatorship ends.

1981

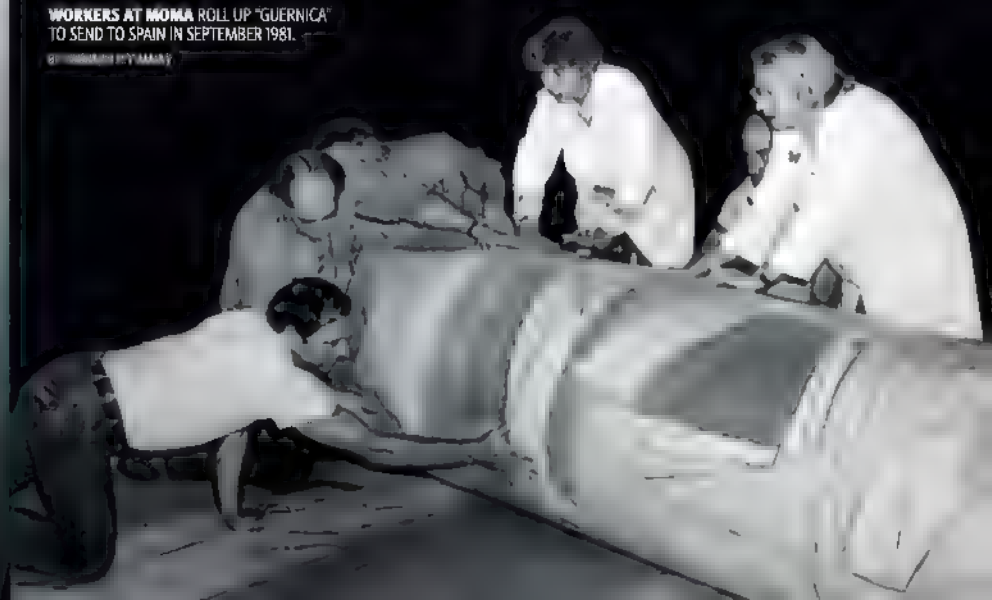
Six years after dictator General Franco dies, "Guernica" is sent from New York to Madrid's Prado Museum. In 1992 it transfers to the nearby **Reina Sofía Museum,** its permanent home.



ORONOZ/ALBUM. © SUCESIÓN PABLO PICASSO, VEGAP, MADRID, 2018

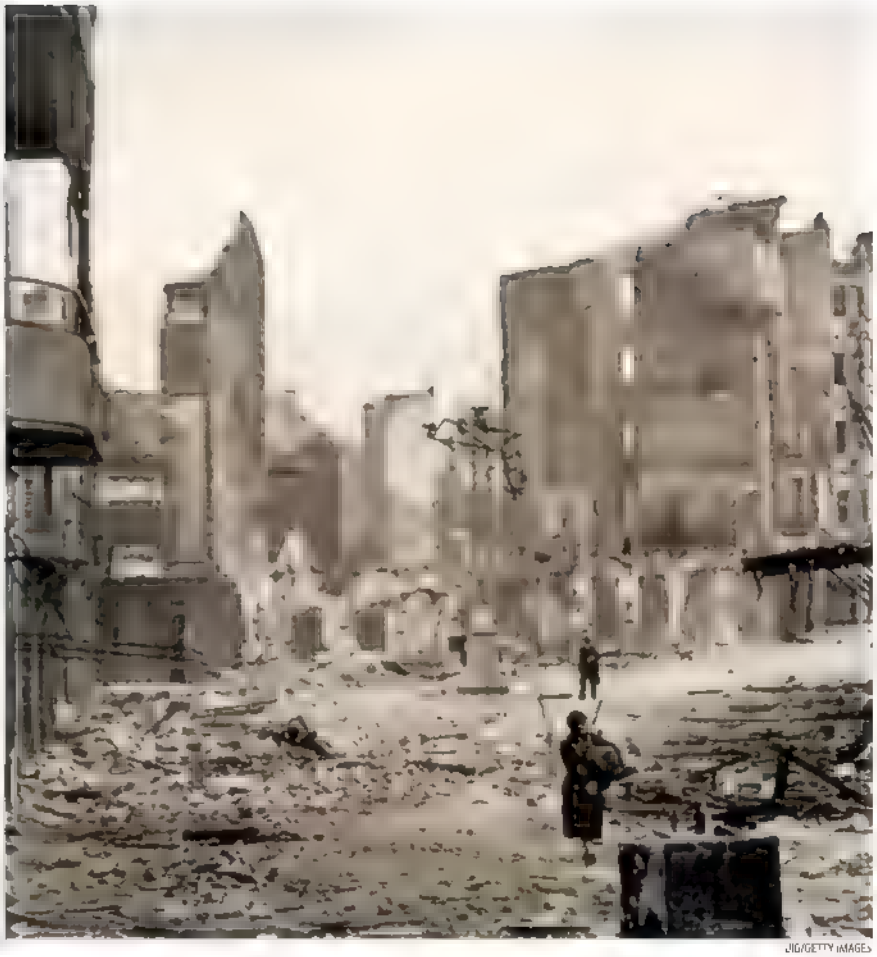
AGE FOTOSTOCK. © SUCESIÓN PABLO PICASSO, VEGAP, MADRID, 2018

WORKERS AT MOMA ROLL UP "GUERNICA" TO SEND TO SPAIN IN SEPTEMBER 1981.



DEATH FROM ABOVE

APRIL 26, 1937, was a Monday, a market day in Guernica. That afternoon, German and Italian bombers dropped 550-pound explosives to crush buildings so that fire would spread more quickly. They were followed by waves of planes dropping incendiaries that burned at 2500°C. By the evening most buildings in Guernica were uninhabitable. Although the death toll, at first thought to be thousands, was later revised down to between 200 and 300, it sent a terrifying message to the world: The fascist powers were prepared to unleash the new weapon from the sky on civilians, the prelude to the devastating carpet-bombing of European cities during the Second World War.



GUERNICA IN THE AFTERMATH OF THE BOMBING

JIG/GETTY IMAGES

Basque city of Guernica. The attack began around 4:30 p.m. and lasted for three hours as high explosives and incendiaries laid waste to the undefended town.

As soon as news of the attack became known, war correspondent George Lowther Steer of the *Times* of London raced to Guernica and filed a report to alert the world: "At 2 a.m. today when I visited the town, the whole of it was a horrible sight, flaming from end to end."

Steer also identified that the raid was not carried out for military purposes but with the specific aim of terrorizing civilians: "A factory producing war material lay outside the town and was untouched. So were two barracks some distance from the town."

Art Strikes Back

The day after the attack, Pablo Picasso was sitting in the Café de Flore, Paris, and read of the atrocity in the newspaper. With the appalling news from Guernica, Picasso knew he had his theme at last.

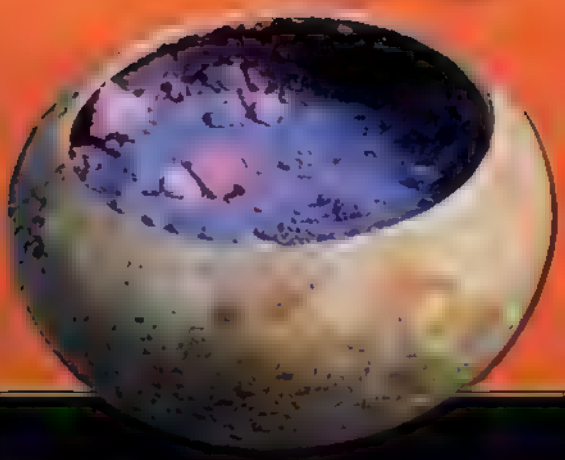
Working at great speed, he filled a vast canvas with what would become the defining image of the horror of war. From its unveiling at the World's Fair, where it caused a sensation, the painting toured the world. It ended up in the United States where it would remain for the next 42 years. Housed in the Museum of Modern Art in New York City, it hugely influenced a generation of postwar American artists. Jackson Pollock, the great abstract artist, went to the museum every day just to gaze at it. Once, overhearing a fellow gallery visitor express an unflattering opinion about the canvas, Pollock invited the man outside where he suggested they fight it out.

Picasso had always said that he would not allow the picture to travel to his homeland until Spain was a republic. General Franco died in 1975—two years after Picasso—and Spain made the transition to democracy as a constitutional monarchy. Even though this meant that Spain was not the republic that Picasso had dreamed of, "Guernica" was allowed to return in 1981 and was shown at the Prado Museum in Madrid. The painting's power to provoke had not diminished over the years. Because the passions of the Spanish Civil War had not faded, "Guernica" was displayed behind bomb- and bulletproof glass. In 1992 "Guernica" made its last journey, to the nearby Reina Sofía Museum in Madrid, where it is now visited by an average of 11,000 people every day.

Today, in a world where warfare still threatens peaceful civilians across the globe, Picasso's depiction of terror, agony, and loss remains the strongest anti-war artwork of the ages. ■

—Toby Saul

SETTING SAIL
Roman
Roman Empire
Pompeii



MASTERS OF THE MEDITERRANEAN

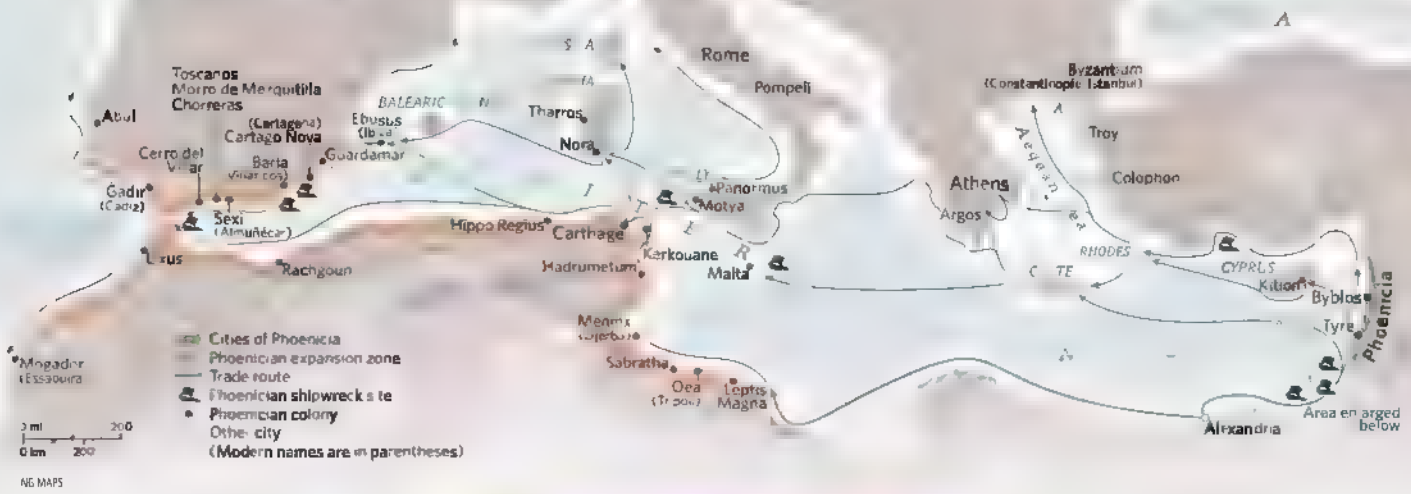
THE PHOENICIANS

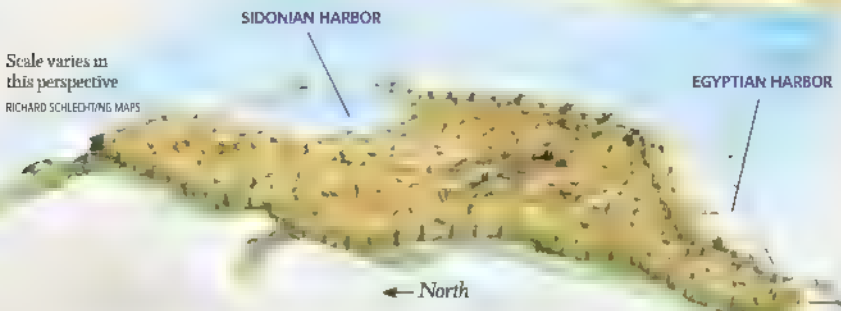
In the first millennium B.C. the seafaring Phoenicians' vast trade empire spanned the Mediterranean. At its core was a vibrant purple fabric worn by powerful kings, the hue courtesy of a dye created from humble sea snails, and worth its weight in gold.

MARK WOOLMER

BUILDING A TRADE NETWORK

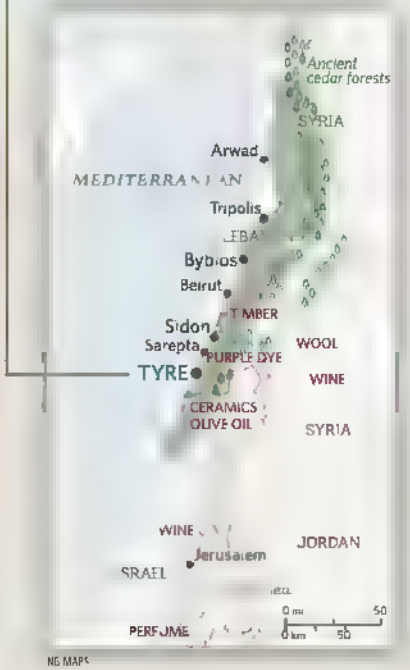
Phoenicia created and maintained a dominant trading network throughout the Mediterranean world via an extensive network of colonies. Classical authors dated the first settlements to around the 12th century B.C., just after the fall of Troy. Today's historians now believe their founding occurred somewhat later, from the ninth century B.C., following a period in which Phoenician merchants assessed and tested sites for commercial viability





TURNING TO THE SEAS

Rich in cedar, wine, olive oil, and purple dye, the cities of Phoenicia vied with one another for commercial supremacy. Historians once thought they turned to sea trade to finance the tribute demanded by the Assyrians. It is now believed that a drop in rainfall and the resulting competition for resources compelled the Phoenicians to take to the seas.



By Land and By Sea: The Strength of Tyre

DESPITE falling into the orbit of the Egyptians, the Assyrians, and later the Persians, the city of Tyre flourished for much of the first millennium B.C., thanks in part to the lucrative trade in Tyrian purple. Split between the Lebanese mainland and an island just off the coast (see above), Tyre's geography led to the city's success. Its mainland portion gave easy access to timber and other rich natural resources, while the island provided a strategic defense and rapid access to the sea. Tyre's judicious balancing act between autonomy and fealty to the regional powers of the day enabled it to thrive for centuries. It supplied Jerusalem with the costly materials for Solomon's Temple in the 10th century B.C. Later it surpassed Sidon as the preeminent Phoenician trading power, and it went on to found the colony of Carthage in North Africa in around 814 B.C. When Tyre resisted Alexander the Great, however, its luck ran out. Building a causeway from the mainland, Alexander took the city in 332 B.C. and executed thousands of its inhabitants. The city never quite recovered its former glory.

Phoenician myth tells the tale of a beautiful sea nymph, Tyrus, and the god Melqart, who sought to win her heart. Melqart dispatched his faithful hound to scour the beaches of modern-day Lebanon in search of a gift for her. When the dog returned, his muzzle was stained violet. When Melqart looked closer, he found in the dog's teeth a crushed sea snail, oozing and purple.

THE FINER THINGS

In addition to timber and other staples, the Phoenicians crafted and traded luxury goods across the ancient world. Above, a Phoenician glass-paste necklace from the fourth to third century B.C. Archaeological Museum of Villa Giulia, Rome

WHITE IMAGES/SCALA, FLORENCE

The god's dog had certainly stumbled on a treasure, and Melqart showed it to Tyrus. Immediately smitten with the color, Tyrus agreed to marry Melqart if he could fashion her a robe in the same vibrant hue. Determined and resourceful, Melqart collected enough sea snails to fulfill the wish of his beloved, and thus "Tyrian purple" and the Phoenician trade in textiles was born.

Although this legend originates in later Greco-Roman traditions, the depiction of a dog chewing the shell of a murex sea snail has been found on several Tyrian coins, indicating that the tale was linked to Phoenician identity, and that it may well have had Phoenician origins. Despite the mythologized accounts for the genesis of Tyrian purple, this dye played a fundamental role in shaping and defining the real history and economy of the Phoenicians.

Masters of the Sea

Although the Phoenicians were among the most influential of the Mediterranean peoples of the first millennium B.C., they are also one of the least understood by modern historians. Strictly speaking, there was no one kingdom called "Phoenicia" but a series of cities occupying a strip of land along the coast of modern-day Lebanon, Syria, and northern Israel.

The name "Phoenician," given to them by the Greeks, is thought to relate to purple. The Greeks themselves were unclear on the origins of the word, *phoînix*, and as it could be used to signify a reddish purple color, it came to be regarded as an allusion to the purple fabric for which the Phoenicians were famed. Another popular theory was that the word could be linked to the legendary king Phoinix, believed by some to have instigated the use of purple dye in the city of Tyre. The Greeks first used the term Phoenician at some point during the ninth to seventh centuries B.C., but—significantly—it has no known equivalent in any of the languages of the ancient Near East, including Phoenician itself.

The Phoenician people were preeminent merchants, sailors, explorers, and settlers, who—unlike their Syrian and Canaanite neighbors—never sought to create a unified military empire or kingdom. Instead, they coalesced into several fiercely independent city-states, the most important of which were Arwad, Byblos, Berot (modern Beirut), Sidon, Sarepta, and Tyre. Politically

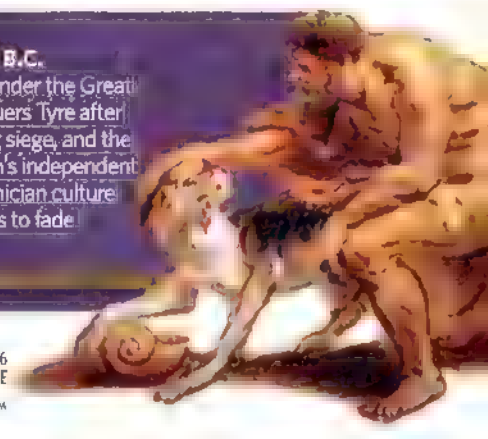
ANCIENT PURPLE POWER

15th-13th centuries B.C. The Phoenician city of Sarepta harvests murex mollusks to create a vibrant, valuable purple dye.

Ninth century B.C. Tyre grows into a commercial center of power. The age of Phoenician colony building begins.

539 B.C. The Phoenicians find new trading opportunities to the east following the Persian defeat of Babylon.

332 B.C. Alexander the Great conquers Tyre after a long siege, and the region's independent Phoenician culture begins to fade.



MELQART DISCOVERS PURPLE DYE IN HIS DOG'S MOUTH. DETAIL OF A 1636 PAINTING BY PETER PAUL RUBENS. MUSÉE BONNAT-HELLEU, BAYONNE, FRANCE

AKG/ALBUM

TO DYE FOR "MANUFACTURING TYRIAN PURPLE IN ANCIENT PHOENICIA," COLORIZED ILLUSTRATION BY AMBROSE DUDLEY REPRODUCED IN HUTCHINSON'S *HISTORY OF THE NATIONS*, 1915

ALAMY/ACI
COLORIZED BY SANTI PÉREZ

How Phoenicians Turned Sea Snails Into Gold

THE EXTRACTION of purple dye from the carnivorous sea snail murex was described in detail by Pliny the Elder in his *Natural History*. It was a lengthy process and a smelly one. The first step was to harvest the mollusks from the sea by submerging mesh traps baited with cockles or pieces of fish. When enough snails were caught, the mucous gland that produces the dye had to be extracted from the animal. Large murices had their glands removed with a metal tool, while smaller specimens—body, gland, and shell—were crushed into a pulpy mass. The glands were then placed into a vat of salt water and heated for 10 days. The glands would melt, leaving behind a colorless compound that produced the purple dye when re-exposed to air and sunlight. Production created a foul stench for which the industry became famous. In most Phoenician settlements the dye manufacturing facilities (and the associated heaps of rotting shells) could be found on the outskirts of a town or city, well downwind from residential areas. The terrible smell was worth it, for the dye could fetch its weight in gold.

DEATH SHROUD OF EMPEROR CHARLEMAGNE. WHEN THIS WAS PRODUCED IN THE NINTH CENTURY A.D., TYRIAN PURPLE STILL EXPRESSED IMPERIAL POWER.

HEMIS/ALBUM

autonomous, these city-states shared a common language and script as well as several distinctive cultural characteristics and traits. They were further unified by their maritime and trading interests, thus allowing modern historians to characterize them as a distinct civilization; however, the Phoenicians never considered themselves as having a shared ethnic identity. Instead they most likely would have defined themselves by the city where they held citizenship: "I am a man of Byblos" or "I am from Sidon" rather than "I am a Phoenician."

In antiquity their neighbors—the Egyptians, the Hebrews, and the Neo-Assyrian Empire to the east—considered the Phoenicians as merchants par excellence, whose commercial acumen across the Mediterranean provoked respect and admiration, as well as ire and envy. Although outsiders' views of the Phoenicians as commercially canny verge on caricature, the literary and archaeological sources bear out the centrality of trade to Phoenician culture. By the end of the fifth century B.C. their trade routes stretched from India in the east to at least as far west as Mogador in North Africa (modern Essaouira in western Morocco). Their networks encompassed the entire Mediterranean and significant parts of the Black Sea, Red Sea, and Persian Gulf.

Along these routes, the Phoenicians exported an extensive range of commodities, including ornate metal objects, jewelry, carved ivories, cedarwood, *athyrmata* (trinkets), wine, and olive oil. But what stirred particular desire was their fine quality, brightly colored fabrics. In Book VI of *The Iliad,* Homer describes the kind of fabric considered fit for Hecuba, queen of Troy:

> She [Hecuba] then went down into her fragrant store-room, where her embroidered robes were kept, the work of Sidonian women, whom [Paris] had brought over from Sidon when he sailed the seas upon that voyage during which he carried off Helen. Hecuba took out the largest robe, and the one that was most beautifully enriched with embroidery, as an offering to [Athena]: it glittered like a star. (Translation by Samuel Butler, 1898)

Brightly decorated garments feature prominently among the Phoenician tribute to the Assyrians. "Your awnings were made of finest cloth, of purple," notes the Old Testament prophet Ezekiel, in his inventory of the luxury products traded by Tyre.

A.AWAD

PAPER TOWN

THE PHOENICIAN city of Gebal, whose ruins are shown above, was later named **Byblos** for the Greek word for "papyrus," one of the city's key trading commodities. As befits a bookish place, Byblos is the site of the earliest known Phoenician inscription using the alphabet—yet another innovation, along with Tyrian purple, that the Phoenicians adapted and spread throughout the Mediterranean world.

Precious Purple

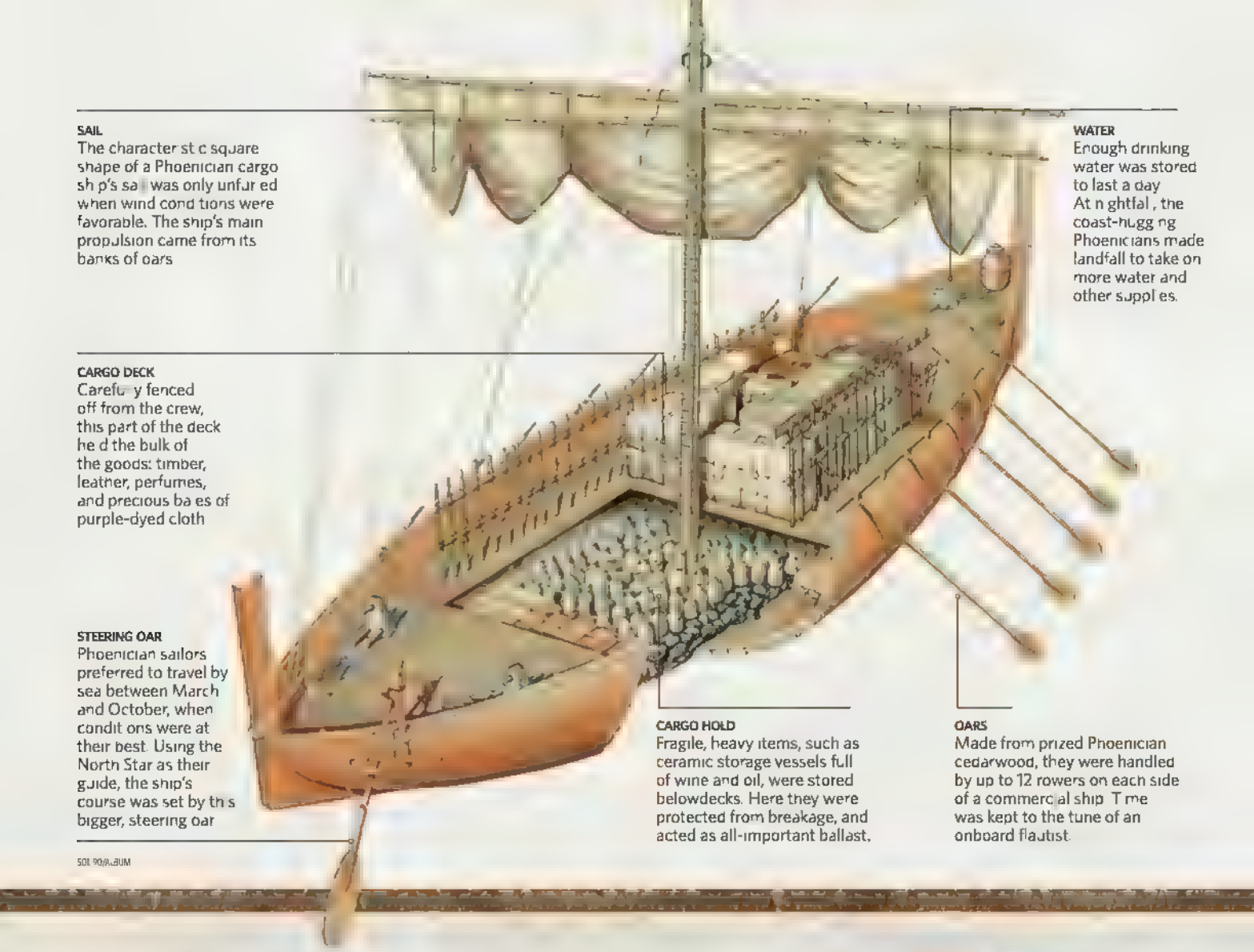
In antiquity fabric production was the most labor-intensive of all crafts. It is hard to overstate its cultural, social, and economic significance. Clothing not only offered people protection from the elements but also denoted social status. Cloth was used to record events or stories in the form of tapestries, and it could even be of such value that it functioned as a form of currency.

Very little is known about the appearance or method of manufacture of Phoenician fabrics as very few fragments of it have survived. Despite this dearth of information in relation to textiles, the ancient sources do provide detailed accounts of the production and use of the purple dye. The discovery of substantial facilities

SHELLING OUT

A *Murex brandaris* (below), one of two species harvested by the Phoenicians. The glands of many thousands were required to produce a fraction of an ounce of purple dye

DEA/GETTY IMAGES


SAIL
The characteristic square shape of a Phoenician cargo ship's sail was only unfurled when wind conditions were favorable. The ship's main propulsion came from its banks of oars
WATER
Enough drinking water was stored to last a day. At nightfall, the coast-hugging Phoenicians made landfall to take on more water and other supplies.
CARGO DECK
Carefully fenced off from the crew, this part of the deck held the bulk of the goods: timber, leather, perfumes, and precious bales of purple-dyed cloth
STEERING OAR
Phoenician sailors preferred to travel by sea between March and October, when conditions were at their best. Using the North Star as their guide, the ship's course was set by this bigger, steering oar
CARGO HOLD
Fragile, heavy items, such as ceramic storage vessels full of wine and oil, were stored belowdecks. Here they were protected from breakage, and acted as all-important ballast.
OARS
Made from prized Phoenician cedarwood, they were handled by up to 12 rowers on each side of a commercial ship. Time was kept to the tune of an onboard flautist.

SOL 90/ALBUM

Rub-a-dub-dub, Phoenicians Sailed in Tubs

"**TARSHISH WAS** thy merchant, [Tyre], by reason of the multitude of all kind of riches; with silver, iron, tin, and lead, they traded in thy fairs . . . and thou wast replenished, and made very glorious in the midst of the seas." Ezekiel's "Lament for Tyre" in the Bible reveals the envy of not only Phoenicia's wealth but also its seamanship. From the ninth century B.C., as they spread throughout the Mediterranean, the Phoenicians became skilled sailors. The Phoenicians left no written accounts of their boats, but Greek accounts did describe them. They called them *gauloi*—tubs—or *hippo*, from the horse heads on their prows. Archaeologists got a chance to find out for themselves when they explored the remnants of two remarkably preserved ships in 1999. Two Phoenician vessels were surveyed off the coast of Israel in conjunction with the U.S.-based Leon Levy Expedition. Dating from the eighth century B.C., they measure 52 feet in length and 20 feet wide. As the Greeks suggested, they are rather tubby—all the better to carry cargo. In this case it was 12 tons of wine each, perhaps destined for Egypt or the new colony of Carthage.

COIN DEPICTING A PHOENICIAN SHIP AND A HIPPOCAMPUS. SIXTH TO FIRST CENTURIES B.C. NATIONAL ARCHAEOLOGICAL MUSEUM, BEIRUT

ERICH LESSING/ALBUM

for murex harvesting, processing, and dyeing at Arwad, Beirut, Sidon, Sarepta, Tyre, and other cities along the Levant coast, highlights just how important and widespread this industry was among the Phoenicians.

The Roman naturalist Pliny the Elder offers the most comprehensive description of how the dye was manufactured in his *Natural History*, written in the first century A.D. The basic raw material was an opaque liquid that was obtained from the mucus glands of two types of sea snail, *Murex trunculus* and *Murex brandaris*. The former was used to make a blue-purple dye known as royal blue while the latter was used to make Tyrian purple.

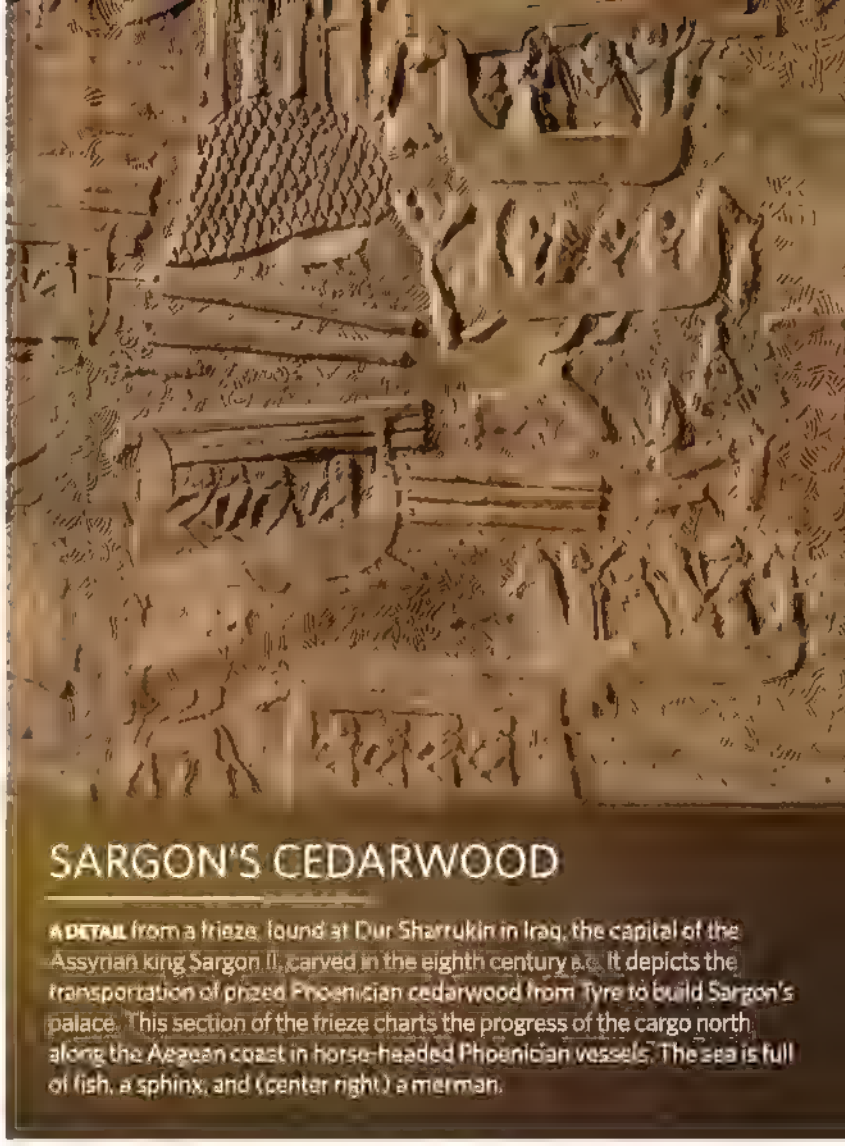
Both dyes were indelible and did not fade easily, a rare property for ancient colorants. Its production, however, produced an offensive smell, and the irony that such a prized product could come out of such an unpleasant process was not lost on ancient authors, such as Pliny himself, who wrote:

> Let us be prepared then to excuse this frantic passion for purple, even though at the same time we are compelled to enquire, why it is that such a high value has been set upon the produce of this shell-fish, seeing that while in the dye the smell of it is offensive, and the color itself is harsh, of a greenish hue, and strongly resembling that of the sea when in a tempestuous state?

As each murex produced only a few drops of precious mucus, the manufacture of commercial quantities of Tyrian purple required the harvesting of vast quantities of these creatures. Archaeologists have calculated that 12,000 averaged-size mollusks (just under a quarter of an inch long) were required to produce barely 0.05 of an ounce of dye. Such an amount was sufficient to color just the trim of a regular-size garment, and so distilling enough dye to stain even a small piece of cloth required enormous numbers of the animals. To dye an entire robe would cost a fortune.

Consequently, Tyrian purple dye was at times worth more than its equivalent weight in silver or gold while purple-dyed fabrics could command extraordinarily high prices. To give one example: according to the fourth-century B.C. historian Theopompus (quoted here much later by Athenaeus), men in the city of Colophon in what is today Turkey, "used to walk about the city wearing purple garments, which was at that time a color rare even among kings, and greatly sought after; for purple was constantly sold for its weight in silver."

In fact, purple dyes were so desirable that astute businessmen created a multitude of inferior-quality imitation hues to meet the considerable demand. Because of this phenomenon, fragments of purple-colored textiles and pot-sherds have to be subject to chemical analysis by



ERICH LESSING/ALBUM

SARGON'S CEDARWOOD

A DETAIL from a frieze, found at Dur Sharrukin in Iraq, the capital of the Assyrian king Sargon II, carved in the eighth century B.C. It depicts the transportation of prized Phoenician cedarwood from Tyre to build Sargon's palace. This section of the frieze charts the progress of the cargo north along the Aegean coast in horse-headed Phoenician vessels. The sea is full of fish, a sphinx, and (center right) a merman.

PURPLE PROSE

Traces of Phoenician culture can be found as late as the Byzantine period, such as this tombstone (below) from A.D. 500. It bears an inscription in Phoenician of a sea-snail diver named Zo'los. National Archaeological Museum, Beirut

P. MAILLARD/AKG/ALBUM

ROYAL PURPLE
Purple was exclusive to royalty in the Byzantine Empire and the production of purple dye was carefully controlled. Above, flanked by her attendants, the empress Theodora is swathed in a purple tunic on a sixth-century mosaic in the Church of San Vitale, Ravenna, Italy.

IMAGE/GETTY IMAGES

▲ **BRONZE**
Votive bronze statuettes from the Temple of the Obelisks, Byblos. 18th century B.C. American University, Beirut
DEA/A. JBUM

◀ **IVORY**
Assyrian-style carving of a winged griffin discovered at Nimrud. Eighth century B.C. Musées Royaux des Beaux-Arts, Brussels
DEA/A. JBUM

◀ **GLASS**
A glass-paste Phoenician mask from Carthage, (date unknown). National Museum of Carthage, Byrsa, Tunisia
E. LESSING/ALBUM

Many Influences, Many Cultures

UNFORTUNATELY, no complete item of the trademark luxury product—purple-dyed cloth—have survived, but the Phoenicians were trading many other kinds of high-end goods that have: jewelry, sculpture, furniture, and religious items. These objects proved more durable and have endured, offering ample proof that Phoenician craftsmen excelled in both quantity and quality. They were able to incorporate a broad range of styles and work in different motifs from across the ancient world. A huge cache of Phoenician ivories discovered in the Assyrian city of Nimrud shows how Phoenician craftsmen blended Assyrian motifs, such as winged creatures, into their design. Likewise, Egyptian elements such as solar disks and sphinxes were worked into Phoenician artifacts. Stone statues at Sidon show clear Greek influences with almond-shaped eyes, and the hint of a smile. Phoenician craftsmanship was highly regarded and its silversmiths widely praised. Egyptian chroniclers admired Phoenician glassmaking, reporting with admiration that a king of Byblos owned a large glass window.

▶ **MIXED METALS**
Detail of a bronze and silver divinity statuette with Egyptian-style solar disk. Eighth century B.C. Louvre Museum, Paris
DEA/ALBUM

archaeologists before they can by designated as genuine examples of royal blue or Tyrian purple.

Fading Away

Although the coast of Lebanon could sustain a high concentration of murices, when demand outstripped supply they were imported from other areas of the Mediterranean and from the Gulf of Aqaba. The decimation of local murex populations, combined with the desire to acquire ever increasing numbers, led the Phoenicians to found overseas settlements in regions where this type of industry could flourish.

The presence of sizable quantities of crushed murex shells at Almuñécar (Sexi), Toscanos, and Morro de Mezquitilla in Spain; Carthage, Kerkouane, and Djerba (Meninx) in Tunisia; and Essaouira (Mogador) in Morocco, provide evidence for the large-scale manufacture of purple dye in both Iberia and North Africa. According to Pliny, after Tyre, it was the North African city of Meninx that produced the most vivid hue of purple. Thus it could be said that the craze for purple went hand in hand with the Phoenicians' greatest achievement—the adaptation and transmission of the alphabet across the Mediterranean, a revolutionary experiment that they exported alongside their other commodities.

For much of their history the Phoenician cities had flourished in the service of larger empires, including Egypt, Assyria, Babylon, and Persia. It was Alexander the Great in the fourth century B.C. who ultimately undid them, when he sacked Tyre in 332 B.C. Phoenicia was subjected to strict Macedonian rule for the next 270 years, and by the end of the first century B.C. it had become so hellenized that Plutarch referred to its inhabitants as Hellenes.

Rome would be the next to take over the Phoenician cities after the Roman general Pompey had subdued the last remains of the Seleucid Empire in 64 B.C. Phoenicia was formally incorporated into the Roman province of Syria, which heralded the beginning of a period of romanization. By the close of the first century A.D. there were very few remnants of the indigenous culture that had existed before the arrival of the Macedons and Romans.

Even though the Phoenicians' economic dominance gradually faded into history, the purple textile industry they had created continued to flourish. Purple fabric remained a luxury that only the rich and powerful could afford. Several laws were passed that even decreed who could and could not wear purple. The Romans began developing their own techniques for farming the murex and other shellfish in rock-cut pools, which kept the practice alive for centuries. Production of the purple dye continued in the eastern half of the Roman Empire until the sack of Constantinople in A.D. 1204. Today synthetic dyes and advances in production have made purple fabric available to all. Despite the equal access, to this day many countries around the world still associate the Phoenicians' Tyrian purple with royalty, wealth, and splendor.

A LEADING AUTHORITY ON THE PHOENICIANS, MARK WOOLMER IS HONORARY RESEARCH FELLOW AT THE DEPARTMENT FOR CLASSICS AND ANCIENT HISTORY AT THE UNIVERSITY OF DURHAM, ENGLAND

Learn more

BOOK
A Short History of the Phoenicians
Mark Woolmer I.B. Tauris, 2017

ALEXANDER ATTACKS THE CITY OF TYRE, LATE 15TH-CENTURY FLEMISH MANUSCRIPT

QUINTLOX/ALBUM

WHEN ALEXANDER ATTACKED

THE SACKING of Tyre by Alexander the Great in 332 B.C. signaled the beginning of the end of a Phoenician culture that had once touched every corner of the Mediterranean. Alexander's taking of Tyre was extremely brutal. His Roman biographer, Quintus Curtius Rufus, described the aftermath of the butchery: "2,000 Tyrians, who had survived the rage of the Macedon troops, now hung nailed to crosses all along the beach."

OPEN SESAME
A hunting scene above a marble door flanked by two Doric columns forms the facade of Tomb II in the necropolis of Aigai near Vergina in northern Greece. Many historians believe this is the resting place of the father of Alexander the Great, Philip II of Macedon, whose image is depicted, above right, on a gold stater coin in the Fitzwilliam Museum, Cambridge, England.

FACADE: LAURENT FABRE PHOTOGRAPHY
PORTRAIT COIN: BRIDGEMAN/ACI

The Tomb of Philip II

MYSTERY OF MACEDON

The 1977 discovery of treasure-filled tombs in Greece sparked global fascination with Philip II of Macedon, whose death launched the career of his son Alexander the Great. Historians are sure one of the tombs contains the bones of the murdered King Philip, but which one?

BORJA ANTELA

WHAT PHILIP BUILT

Philip constructed the circular Philippeion, above, in the great sanctuary of Zeus at Olympia to celebrate his 338 B.C. victory at Chaeronea, which brought the Greek mainland under the sway of Macedon.

TERRANCE KLASSEN/AGE FOTOSTOCK

Overshadowed by his more famous son, Philip II of Macedon was an exceptional ruler in his own right. He remade his army into a formidable fighting machine to bring the whole Greek mainland under his control in the middle of the fourth century B.C.

At the time of Philip's accession in 359 B.C., Macedon was regarded by most Greeks as an only partially hellenized kingdom and somewhat peripheral to the Greek world. Philip came to the throne at a time of dynastic violence in Macedon, but as Athens and Thebes to the south dealt with their own political challenges, Philip was using his military and diplomatic flair to make rapid conquests in the Thrace region.

By 351 Athens started to recognize the threat from its upstart northern neighbor. But by then it was probably too late. Through his army's use of a new phalanx formation and the long *sarissa* pike, Philip won the battle of Chaeronea in 338 to take control of mainland Greece, a conquest that would play a key role in his son's spectacular victory over the Persian Empire in the decade to come. It was, perhaps, inevitable that warlike Philip, blind

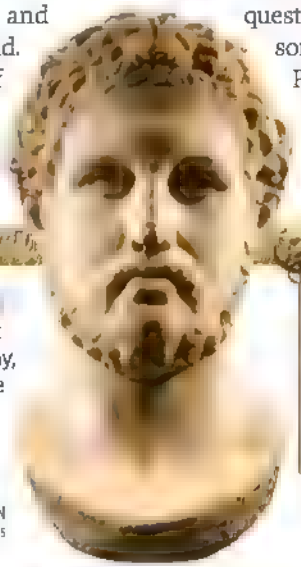
A FATHER'S IMPERIAL LEGACY

359-338 B.C.

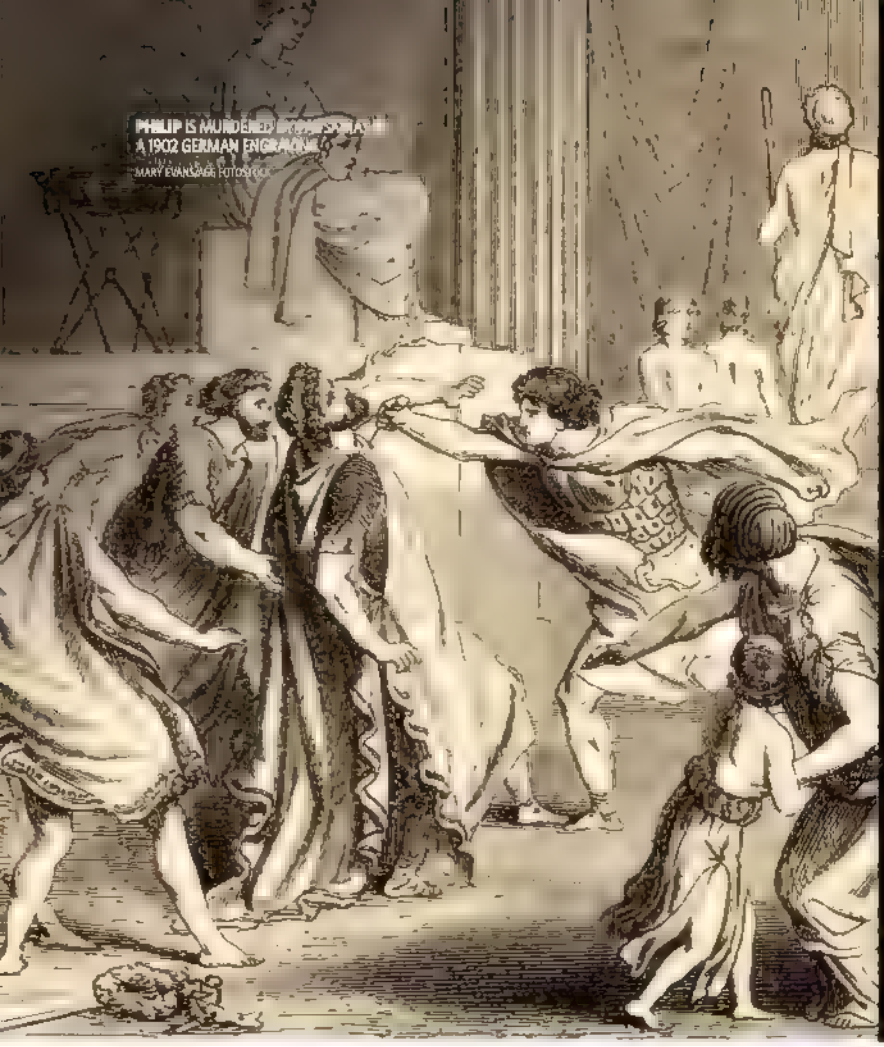
Philip II becomes king of the small kingdom of Macedon in northeast Greece. Having revitalized his army, with a new infantry formation (the **phalanx**) and arming them with the ***sarissa* pike,** Philip conquers mainland Greece by 338 B.C.

336 B.C.

Philip is **murdered** at his daughter's wedding. Historians speculate whether it was a small act of revenge or part of a wider dynastic plot. Philip's son, Alexander III, succeeds him and will later become famous as **Alexander the Great.**



PHILIP II OF MACEDON, CHIARAMONTI MUSEUM, VATICAN
AJR/IMAGES



PHILIP IS MURDERED BY PAUSANIAS, A 1902 GERMAN ENGRAVING.
MARY EVANS/AGE FOTOSTOCK

CLUES IN THE COFFIN

GUILT OR GRIEF?

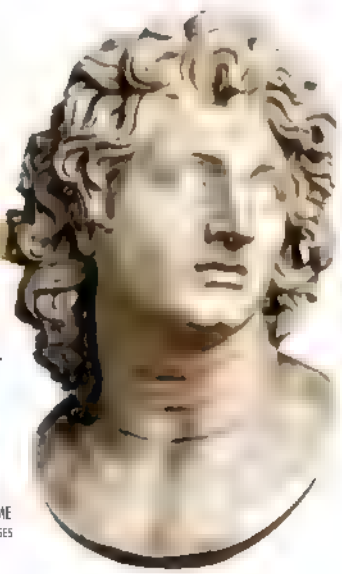
Who wanted Philip II killed? For centuries, authors have speculated that there may have been more behind the murder of the Macedon king than the personal grudge of a bodyguard. Did Alexander himself have a hand in it? Nevertheless, in 1977, when the casket in Tomb II was opened, archaeologist Manolis Andronikos found a clue that could indicate a degree of tenderness on the part of the son. Under a heavy crown made of gold oak leaves and tiny acorns lay partially incinerated bones wrapped in a cloth of deep purple, a color reserved for royalty. Many scholars believe they are the bones of Philip. This arrangement of human remains reminded Andronikos of Homer's description of the burial of the Trojan hero Hector: "They gathered the white bones, covered them with soft purple cloths and laid them in a gold larnax." He felt sure that whoever officiated at this funeral ceremony had observed the Greek funeral customs of a bygone age. More tantalizing still, Andronikos knew that Alexander the Great was an avid fan of Homer, always carrying a copy of *The Iliad* with him. If the young Alexander, age 20, piously officiated at the funeral of his slain father, perhaps he wasn't the man behind the king's murder.

in one eye and lame from battle injuries, was not destined to pass away peacefully in his sleep. His own end would be violent and bloody.

Blood Wedding

Philip's death came in 336 B.C. when his bodyguard murdered him on the day of his daughter's wedding. The first-century B.C. Greek historian Diodorus Siculus explained that Philip's assassin, Pausanias, had a motive for murder: revenge. Acting on a personal grudge against the king, the bodyguard took spectacularly public action: After a day of wedding banquets in the ancient Macedon city of Aigai (near modern-day Vergina), the wedding guests were preparing to watch a procession in the theater. Pausanias approached the king, Diodorus relates, unsheathed his Celtic dagger, plunged it between Philip's ribs, "and such was the end of Philip who, in the course of a reign of twenty four years, had been the greatest of the kings of Europe of his day."

The assassin was quickly killed by the other soldiers—perhaps conveniently. Diodorus wrote that the motive came from Philip's failure to punish men who had sexually assaulted Pausanias, but other historians believed there to have been a wider plot involving more powerful figures pulling the strings behind the scenes.



ALEXANDER THE GREAT, CAPITOLINE MUSEUMS, ROME
CORBIS/GETTY IMAGES

330 B.C.

Alexander topples the mighty Achaemenid (Persian) Empire with the death of its last emperor, Darius III. His lightning sweep through Asia is facilitated by the battle readiness and tactics of his army, in part a legacy of his father, Philip.

323 B.C.

Having forged an empire stretching to India, Alexander the Great dies from fever in Babylon. His half brother Arrhidaeus, who may have been mentally impaired, becomes the new king of Macedon, as Philip III.

317 B.C.

Philip III and his wife, Eurydice, are murdered by Olympias, mother of Alexander the Great. Alexander's son, Alexander IV, rules Macedon, which remains a key regional power until the rise of the Roman Empire.

Northern Threat

After his ascent to the throne in 359 B.C. Philip II expanded Macedon rule across much of the northern region of Thrace. To the south, Athens and Thebes tried to resist the expansion of Macedon, but they were thwarted at the Battle of Chaeronea in 338 B.C.

MAP: EOSGIS.COM

The main beneficiary of the regicide was undoubtedly the dead king's son Alexander, age 20. Alexander and his father had already had heated discussions about Philip's treatment of Olympias, his former wife and Alexander's mother. Later chroniclers, including the Roman author Justin, would claim that mother and son actually orchestrated the king's assassination.

Rumors of Alexander's involvement in his father's death would have been quickly quashed at the time for the sake of a smooth succession. In the presence of his father's body, Alexander was named king of Macedon and proclaimed Alexander III—although posterity would, of course, remember him by a "greater" title. Whatever the true actions behind Philip's assassination, the unexpected circumstances of the king's death meant that a lavish royal tomb needed to be constructed, possibly in haste.

In 336 B.C. a king as exceptional as Philip required a fitting tomb. The Macedon capital was in the city of Pella, but kings were not buried there. Philip's corpse didn't have to travel far, as Aigai, the site of his murder, was also where Macedon kings were traditionally buried. The funeral took place, his son went on to amaze the world, the centuries went by, other empires, such as the Roman and Ottoman, rose and fell. Over the centuries, the once mighty Aigai and its tombs fell into oblivion.

Aigai Unearthed

French archaeologist Léon Heuzey was the first to suggest that the lost city and its tombs of Macedon kings lay hidden near modern-day Vergina in northeastern Greece. In 1937 Constantin Rhomaios, an academic and Greek archaeologist, followed Heuzey's hunch and started excavating near the city. Work halted during World War II and the later Greek Civil War. In 1962 Manolis Andronikos, one of Rhomaios's former assistants, took over the project. For the next 15 years, Andronikos's team would come closer and closer to finding the resting place of Alexander's bellicose father.

The site at Aigai contains hundreds of tumuli, some dating as early as 1100 B.C. Andronikos and his team focused their efforts on a mound

HOLDING HISTORY IN THE HAND

Educated at Oxford, Greek archaeologist Manolis Andronikos first worked at Vergina as a student in the 1930s. Later, he returned to direct the dig at the Great Tumulus, uncovering two royal tombs in 1977. More royal tombs would be discovered later, cementing the theory that the Vergina site was indeed Aigai. Once inside Tomb II, he opened the gold *larnax* containing the partially incinerated remains of what was clearly a royal figure. "Everything indicated that we had found a royal tomb," he wrote, "and if the dating that we had assigned was correct—as it seemed to be—I didn't even dare think about it. A shiver ran down my spine, something like an electric shock went right through me. Was I holding Philip's bones in my hands? It was too overwhelming a thought for my brain to take on board."

MANOLIS ANDRONIKOS (CENTER) SUPERVISES WORKERS EXCAVATING THE GREAT TUMULUS AT AIGAI (VERGINA). PHOTO FROM LATE 1970S

RICHARD DIBON-SMITH/AGE FOTOSTOCK

known as the Great Tumulus. Measuring more than 360 feet across and nearly 40 feet high, the structure clearly contained a large monument of prominence. Years of patient, systematic sifting followed. Finally in 1977, Andronikos uncovered a series of tombs inside.

One of these, now known as Tomb I, had been raided, but the other, known as Tomb II, remained intact. On November 8, 1977, the team removed the central stone of Tomb II's vault after grueling physical effort. Using a step ladder, Andronikos climbed down into the chilly tomb. He already felt sure they had found the final resting place of a great Macedon king.

What Andronikos saw was breathtaking. The impressively large and carefully constructed chamber was divided into an inner and an outer vault. The beautiful walls were decorated with magnificent murals. In the inner room, which had probably been constructed first, stood a marble sarcophagus. Heart pounding, Andronikos reached inside and found a gold *larnax*, or funerary casket, bearing the Vergina Sun, a sunburst of 16 shining rays that served as the symbol of Macedon royalty. Carefully, he eased the vessel open and saw bones inside.

Precious grave goods surrounded the larnax: Weapons, pieces of gold and silver, and everyday objects lay close by. In another part of Tomb II he came upon another precious gold larnax, in which lay the remains of a woman. The tomb's splendor made it obvious that the remains belonged to an important figure, but Andronikos could not tell yet if they belonged to Philip II.

ATHENS ON TOP

The Dexileos grave stele from circa 394 B.C. (below) shows a mounted Athenian crushing a foe. Later that century, Athens would itself be crushed before Philip's new army, trained in the new Macedon phalanx format on.

DEA/ALBUM

Buried in Philip's Tomb

News of the discovery provoked huge excitement across the world, reviving historical interest in Macedon and in Philip II. The unconfirmed identity of the king in Tomb II fueled curiosity and wonder. Andronikos, by then a Greek national hero, argued that the large size of the tomb and the opulence of the grave goods pointed to a grave for an especially highly regarded king, and stated his confidence that it was that of Alexander's father. The two parts of the vault of Tomb II

FIT FOR A WARRIOR KING

MACEDON'S MILITARY TREASURES

Philip and his son Alexander owed their conquests to military strategy and advanced technology, so weapons and armor form a significant portion of the grave goods discovered at Aigai. Tomb II contains spectacular objects of enormous historical value. In one corner of the chamber the archaeologists found a ceremonial sword of bronze and silver and decorated with a scene depicting the murder of the queen of the Amazons by Achilles. Also found were a pair of bronze greaves, worn to protect the shins. The **breastplate (left)**, made of iron and ornamented with gold leaf appears more ceremonial than practical. Covered with leather and cloth, it is embellished with small, gold lion heads. The breastplate's heft would have been far too unwieldy to have been worn by a soldier on the battlefield. The same is true of the very heavy **shield (right)**, made of leather, gold, ivory, and glass. Figures of a man and a woman can be made out at the center, surrounded by gold. Although some historians believe the armor belonged to Philip, other studies suggest they are a generation younger, leading some researchers to argue they may belong to Alexander's half brother, or even Alexander himself.

were constructed at different times and the stone slab lying across the sarcophagus had not been dressed at all, suggesting a situation of urgency, which could be explained by the suddenness of Philip's death. Historians know from written sources that Philip suffered numerous physical injuries in his many battles, and the damage to remnants of the skull appears to be consistent with those descriptions.

If the male remains did belong to Philip, then who was the woman in the other chamber of Tomb II? Is she Meda, one of Philip's seven wives, who is said to have killed herself on Philip's death? Or is she Cleopatra, the last of his wives, who died—perhaps burned to death—on the orders of Olympias, Alexander's vengeful mother? In either case, the discovery of the tomb helped bring to life the violent jockeying for power after Philip's death.

Not all historians have accepted Andronikos's conclusion that the body in Tomb II is indeed that of Philip. In 1980 American archaeologist Phyllis Williams Lehmann published an article in which she expressed her doubts about this identification. Lehmann argued that the style of tomb found by Andronikos postdated Philip's death in 336 B.C. She also questioned the idea that the gold crown belonged to Philip, arguing that it was his son Alexander who introduced this Persian-style headgear after his conquest of the East.

AMBITIOUS MOTHER

Alexander's mother, Olympias, depicted below on a third-century B.C. medallion, stopped at nothing to secure the throne for her children. Archaeological Museum of Thessaloníki

On the basis of her theory that Tomb II dates to after Alexander the Great's reign, Lehmann suggested that the two bodies inside Tomb II belong to Alexander's half brother, Philip III Arrhidaeus—who officially succeeded Alexander on his death in 323 B.C.—and his warrior wife, Eurydice. The pair were deposed and killed a few years later, at the hands of Alexander's mother, Olympias, who wanted Alexander's own son to succeed him.

Lehmann's theory received a swift rebuttal from other archaeologists. Some took issue with her argument that the crown from Tomb II was in an oriental style that postdates Philip. They claim Philip was depicted wearing such headgear. Others point out the difficulty of imagining that a king like

THE CEREMONIAL SHIELD FOUND IN TOMB II AT AIGAI, AS WELL AS THE IRON-AND-GOLD BREASTPLATE (FAR LEFT), IS FROM THE FOURTH CENTURY B.C. MUSEUM OF THE ROYAL TOMBS OF AIGAI, GREECE

SHIELD: DEA/ALBUM
BREASTPLATE: DEA/ALBUM

Philip III Arrhidaeus would have warranted such a magnificent tomb. His reign was by no means glorious, and it is believed that he had to delegate power to Alexander's generals because of mental deficiency.

Bones to Pick

Archaeological claims and counter-claims continue to roil around the occupants of Tomb II. In 2010 anatomist Jonathan Musgrave, from the University of Bristol in England, presented findings that suggested that damage to the eye socket of the bones found in Tomb II are consistent with Philip's right-eye injury sustained when he laid siege to the city of Methone in 355 B.C.

Then, in 2015, a joint Spanish-Greek study of the tombs reignited the controversy. The team's researchers concentrated on the skeletons in Tomb I, and they found that the left leg of the tall, middle-aged male skeleton bore signs of a crippling blow to the knee.

Various sources concur that in 339 B.C., three years before his murder, Philip received a similar leg injury. If Philip's body lies in Tomb I, then who are the occupants of Tomb II? This latest study reverts to Lehmann's argument, suggesting that they are probably the remains of Philip III Arrhidaeus and Eurydice. As of this writing, the location of Philip's body remains undecided.

What has never been in doubt since the discovery of these lavish tombs, however, is the important contribution they made to understanding the extraordinary civilization that produced Alexander the Great. The stunning artifacts and intriguing burial practices put modern visitors face-to-face with an epoch-shaking event of the past. By advancing understanding of the ancient world, Andronikos's achievement is on a par with Howard Carter's discovery of Tutankhamun's tomb or Heinrich Schliemann's unearthing of Troy.

BORJA ANTELA IS PROFESSOR OF ANCIENT HISTORY AT THE AUTONOMOUS UNIVERSITY OF BARCELONA, SPAIN.

Learn more

By the Spear: Philip II, Alexander the Great, and the Rise and Fall of the Macedonian Empire
Ian Worthington. Oxford University Press, 2014.

THE TREASURE TOMBS OF

The Museum of the Royal Tombs of Aigai, Greece, conserves the hoard of

DEA/ALBUM

THE MAIN CHAMBER OF TOMB II
The bones of a man and a gold crown were found in a gold *larnax* (casket). Nearby were finely wrought weapons and armor as well as everyday objects: a cooking pot, tripod, bucket, bowls, silver cups, and even a sponge.

DE AGOSTINI PICTURE LIBRARY

Ⓐ MAN'S *LARNAX*
This pure gold casket decorated with rosettes and a 16-pointed star was found inside the marble sarcophagus. It contained the bones of an adult male

Ⓑ MAN'S CROWN
Found inside the man's *larnax*, this crown is composed of 313 gold leaves and 68 tiny gold acorns, sacred to Zeus

DE AGOSTINI

DEA/ALBUM

Ⓒ SILVER ALABASTRON
This alabastron (perfume bottle), decorated with the head of Alexander in the guise of Hercules, forms part of a silver set found in the funeral chamber

① WOMAN'S *LARNAX*
Found in the antechamber, this larnax contained the burned bones of a woman, age around 20, and a crown. Her remains were wrapped in gold and purple cloth

BRIDGEMAN IMAGES

② BREASTPLATE
This breastplate was found in the antechamber. Decorated with intricate reliefs, it is made of leather covered with a layer of iron and silver

ROBERT TERRICO

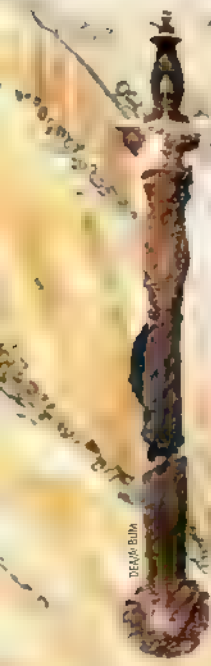
MACEDON

grave goods found in 1977.

THE TUMULUS TROVE

The Great Tumulus near Vergina contains numerous royal tombs, confirming the site as that of Aigai, which, along with Pella, was a key city in Alexander the Great's native Macedon. Shown here are some of the treasures of **Tomb II,** one of two sepulchres that Manolis Andronikos first uncovered in the tumulus in 1977. Although some historians dispute his claim that Tomb II is that of King Philip II of Macedon, its glittering grave goods offer an insight into a culture that produced two of the greatest commanders and empire builders in history

Ⓓ SWORD
This marble-tipped sword was found lying on the floor of the tomb. Its scabbard is decorated with strips of gold.



DEA/A.BUM

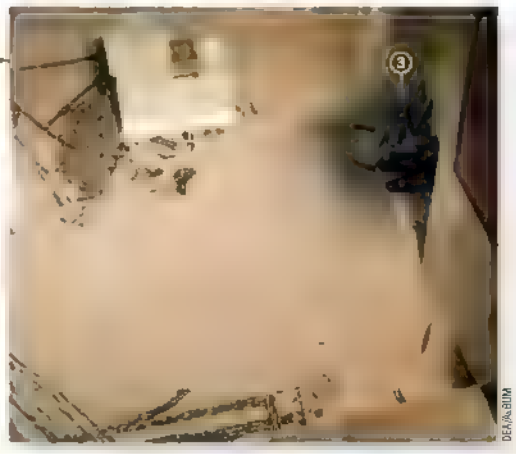
④ WOMAN'S CROWN (DETAIL)
This item was found in the woman's *larnax* in the antechamber

DEA/A.BUM

Ⓔ LANTERN
This bronze lantern is perforated to allow light to shine out. It is adorned with faces of the god Pan.

DEA/A.BUM

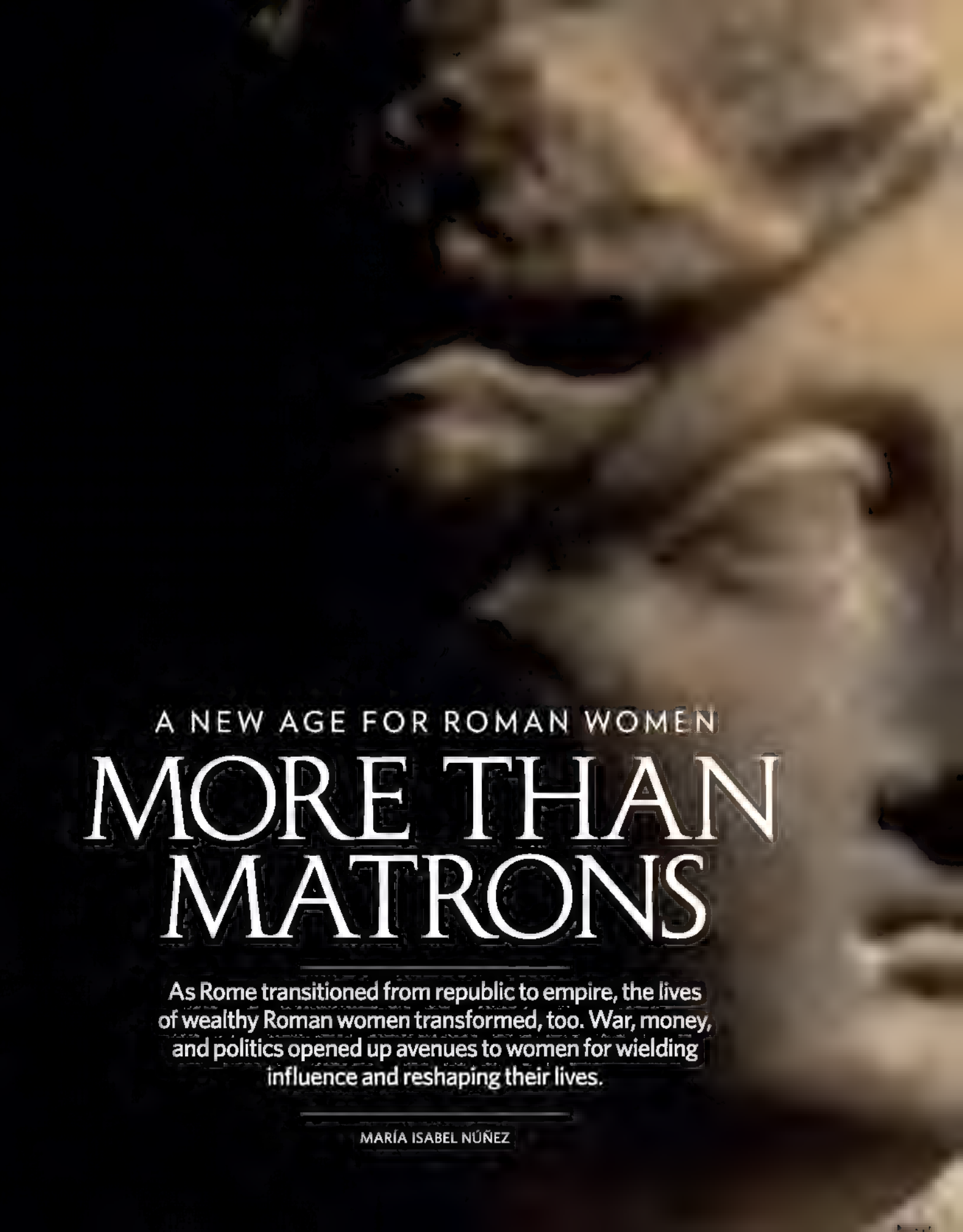
③ QUIVER
This gold quiver was found in the antechamber of the tomb. It is decorated with an intricate relief depicting the capture of a city and may have been part of a war booty



DEA/A.BUM

DEA/A.BUM

ANTECHAMBER
A room discovered abutting the main chamber. Inside, a gold *larnax* containing the remains of a young woman was found, along with various weapons.



A NEW AGE FOR ROMAN WOMEN

MORE THAN MATRONS

As Rome transitioned from republic to empire, the lives of wealthy Roman women transformed, too. War, money, and politics opened up avenues to women for wielding influence and reshaping their lives.

MARÍA ISABEL NÚÑEZ

A GODDESS WITH MANY FACES

The goddess of magic and crossroads, Hecate was often depicted with three faces, as she is in this third-century Roman statue. Antalya Archaeological Museum, Turkey

GETTY IMAGES

AGAINST THEIR WILL

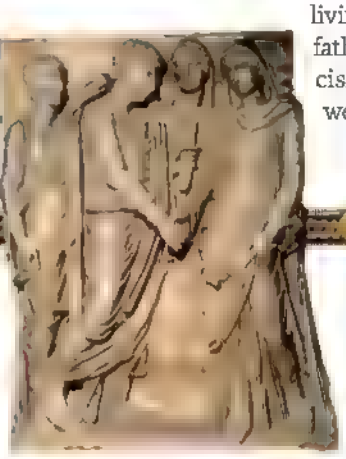
A detail from Nicolas Poussin's 1637-38 painting "The Rape of the Sabine Women" (above) depicts the brutal legend of how Rome boosted its female population. Louvre Museum, Paris

PHAS/GETTY IMAGES

Revealing insights into ancient Roman attitudes toward women are found in one of the city's origin stories. Romulus, founder and leader of Rome, knew the city needed families to survive and prosper, but it had no women. Romulus approached the neighboring Sabine kingdom, but it declined to send Rome its daughters. Undeterred, he crafted a plan: Romulus held a marvelous festival and invited the Sabines. During the festivities, he gave a signal to the Roman men, who seized the Sabine women and fought off their men. To avoid bloodshed, the Sabine women acquiesced to marry their captors. The myth reflects how Rome expected women to submit and obey. As Rome moved from republic to empire, these old values would change—shaped by war, prosperity, and politics.

Daughters, Mothers, and Wives

In public and private life, Rome was a man's world. Roman families were run by the oldest living male, called the paterfamilias, or father of the family. He made private decisions for the family, managing their wealth and property and determining



THE GODDESS VESTA BLESSES A MARRIAGE ON A RELIEF FROM THE SECOND CENTURY A.D.

BRIDGEMAN/ACI

450 B.C.

MOTHERS, HEROINES, RULERS

Rome's legal code, the **Law of the Twelve Tables,** is compiled. Tablet V places women under the control of male heads of the household, setting the tone for many centuries to come.

146 B.C.

The Punic Wars with Carthage result in Rome's mastery of the Mediterranean. **Cornelia,** daughter of Scipio Africanus the Elder and mother to the Gracchus brothers, is held up as an example of an ideal modest Roman matron.

the course of his children's lives. Men could participate in public life; they could attend political events, speak in public, vote, and hold office.

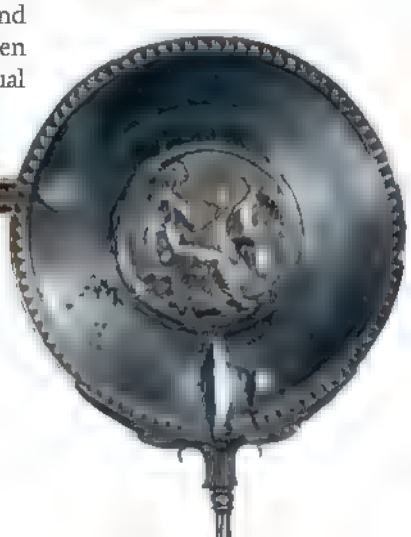
Roman women were most closely associated with the home and hearth, exemplified by the figure of the matron, a submissive feminine ideal. The patriarchal society believed most women incapable of serious thought and in need of male guidance. For example, a legal code from the mid-fifth century B.C., the Law of the Twelve Tables, decreed: "Women, even though they are of full age, because of their levity of mind shall be under [male] guardianship." In order to keep this dangerous "levity of mind" in check, women's lives were rigidly controlled from childhood. They could not participate in public life, either through oration, voting, or holding office.

Marriage and motherhood were the aims of a respectable Roman woman. In the *sponsalia*, a kind of engagement ceremony, a Roman girl marked her betrothal by wearing a ring on the third finger of her left hand, as according to ancient tradition, a nerve ran from there directly to the heart. Her wedding day was regarded as the most important event of her life. Once she had married, she could start bearing children and upholding Roman values, bringing her children up according to patriotic principles. Any sexual

WHO'S THE FAIREST?

The role of *ornatrix* (hairdresser) was often undertaken by freedwomen who worked for rich mistresses. Below, a silver mirror from the Boscoreale Villa near Pompeii. Louvre Museum, Paris

BRIDGEMAN/AC



42 B.C. | 27 B.C. | A.D. 527

Hortensia, the daughter of a famous orator, delivers a fiery speech in the Forum, becoming one of the first Roman women to speak out in public against a law she considers unjust.

Rome becomes an empire, in which Augustus' then wife, **Livia Drusilla,** will define the role of empress. Through patronage and private influence, she expands women's public powers that can be exercised only through male relatives.

Empress Theodora rules over the flourishing eastern Roman Empire with her husband Justinian. Under their co-rule, rights are granted to women that will shape later legal systems.

OBSERVED BY A MAN, A WOMAN NURSES A BABY ON THE THIRD-CENTURY SARCOPHAGUS OF MARCUS CORNELIUS STATIUS. LOUVRE MUSEUM, PARIS

BRINGING UP BABIES

MOTHERHOOD IN ROME

Part of being an ideal Roman wife was being a good mother and providing a husband with offspring. If a couple were infertile, then another woman might serve as a surrogate, despite the risk that this woman might displace the original wife altogether. A first-century B.C. inscription, the *Laudatio Turiae*, details a loving husband's praise for his dead wife. He reveals the lengths to which a couple might go for an heir: "When you despaired of your ability to bear children and grieved over my childlessness . . . you proposed a divorce outright and offered to yield our house free to another woman's fertility." Despite the husband's refusal and the evident mutual affection of the pair, the extreme solution reveals the precarious position of any infertile woman.

Maternalism was deemed to be a natural female state, which meant that good matrons were also expected to raise children left motherless, a practice warmly applauded by the Roman moralist Seneca. Surrogacy and fostering were embedded in Roman ideas of motherhood. After all, Rome's mythical founders, Romulus and Remus, were raised by a foster mother in the form of a she-wolf.

POWER BEHIND THE THRONE

Augustus' wife Livia Drusilla is portrayed as the goddess Ceres in this marble statue from around A.D. 15. Louvre Museum, Paris

SCALA, FLORENCE

relations outside of marriage, even by unmarried women or widows, were considered a crime and could be punished by the paterfamilias without a trial, often taking the form of an honor killing.

Punic Wars, Protesting Women

When the Roman Republic was disrupted by war, its social relations were disrupted, too. The Punic Wars, a series of three conflicts occurring between 264 and 146 B.C., created new opportunities in the lives of Rome's women. When the men of Rome left to fight the Carthaginian (Punic) empire, some Roman women saw their chance to expand their rights, however limited. As Roman generals such as Scipio Africanus the Elder warred against the Carthaginian leader Hannibal, a battle of the sexes was also occurring on the home front.

In wartime women have been able to challenge traditional roles, only to find themselves thrust back into old ways once the war is over. The Punic Wars were no exception. Many heads of families had died during the wars, or were absent for long periods fighting, and some Romans were alarmed at the increasing number of wealthy women, who, by necessity, were playing a growing role in business and enterprise.

In 215 B.C., during the Second Punic War, Rome's rulers passed the Lex Oppia, a sumptuary law to keep women from appearing too ostentatious during wartime. The law decreed that women could possess no more than half an ounce of gold, that they could not wear multicolored tunics (especially purple ones), and they could not ride in horse-drawn chariots in town, except for religious occasions.

Over the course of a century, Rome defeated Carthage and emerged in 146 B.C. as the dominant power in the Mediterranean. When the war ended, however, the Lex Oppia remained in effect. In 195 B.C. Rome's matrons had decided the law needed to go, too. They marched on the Forum and pressured the government to repeal the law, revealing how female power could be channeled into victory.

THE PERFECT MOTHER

In this 17th-century painting by Alessandro Varotari (above), Cornelia, daughter of the general Scipio Africanus, tells a friend boasting of her finery that *her* jewels are her children. National Gallery, London

AKG/ALBUM

The battle, however, was far from over. Roman men still believed that women were particularly vulnerable to corruption arising from luxury and greed. There was great unease that Rome's new wealth and power from its victory over Carthage would lead to moral trouble for women's "purity."

Looking for a traditional, modest matron who knew her place, Roman men idealized Cornelia, daughter of the heroic general Scipio Africanus and mother to the war heroes Gaius and Tiberius Gracchus. Cornelia publicly scorned luxury and riches. She famously said of her sons: *"Haec ornamenta mea*—These are my jewels."

A prominent critic of female outspokenness was Marcus Porcius Cato—Cato the Elder—who held the role of censor toward the end of the Punic Wars. Cato's rejection of luxury, and nostalgia for an older, sterner age, sometimes cloaked an ingrained misogyny. He once wrote, with apparent satisfaction, that if a man's wife committed adultery "he could kill her with impunity." He also wrote: "What [women] really want is unrestricted freedom—or to speak the truth—license; and if they win on this occasion what is there that they will not attempt?"

To help head off such gender anarchy, Cato supported the Lex Voconia in 169 B.C., which prevented very rich citizens from willing their wealth to a female heir. The law was partly motivated by the enduring idea that naturally frivolous women would fritter the money away. Many women found legal strategies to get around the restriction, however, with the collaboration of men registered in other classes.

Speaking Her Mind

During the next century, women would speak up for their rights again due to a war. After the murder of Julius Caesar in 44 B.C., 1,400 rich women were to be forcibly taxed to help fund the ensuing civil wars.

To the shocked disapproval of the Roman political elite, Hortensia, daughter of the orator Quintus Hortensius, delivered a fiery speech in Rome's Forum, summarizing the injustice and hypocrisy of the Roman patriarchy. According to the writings of historian Appian, she

FROM MATRON TO PATRON

POMPEII WAS HOME to a number of groundbreaking, wealthy women who wielded public power. One of them was Eumachia, daughter of a brickmaker, who married into a high-ranking family. Using her wealth, she became a notable public benefactor, building many structures in Pompeii. One of the largest and best preserved is the Building of Eumachia (right) in the city's forum. Within it is a statue of a veiled Eumachia (below) which was dedicated to her by the fullers guild, the influential tradesmen responsible for dying and cleaning clothes. Eumachia was also the public priestess of the Concordia Augusta, the cult of the deified Augustus, associated with his wife Livia. Some scholars believe the statue of Eumachia intentionally mimics Livia's features to link her with a traditional Roman matron. In Pompeii it seems that women like Eumachia could become strong, independent figures, as long as they behaved in socially sanctioned ways.

STATUE OF EUMACHIA, BEARING THE INSCRIPTION "TO EUMACHIA, DAUGHTER OF LUCIUS, PUBLIC PRIESTESS, THE FULLERS [DEDICATED THIS STATUE]"
ARALDO DE LUCA

BUILDING OF EUMACHIA, IN THE FORUM AT POMPEII.
DEA/AGE FOTOSTOCK

A WOMAN HOLDING WRITING MATERIALS, A FIRST-CENTURY FRESCO FROM POMPEII. NATIONAL ARCHAEOLOGICAL MUSEUM, NAPLES

LONG, LEGAL STRUGGLE

Several imperial-era Roman jurists argued that nothing justified unequal treatment of women. Until the wholesale reforms of Justinian in the sixth century, many of these ideas of equality did not gain acceptance.

GAIUS MUSONIUS RUFUS

In his *Dissertations*, first-century A.D. philosopher and jurist Gaius Musonius Rufus said that women **should receive the same education** as men: "Trainers of horses and of dogs make no distinction between male and female in their training." When asked whether women should study philosophy he said, "Women have received from the gods the same ability to reason as men . . . It is not men alone who possess eagerness and a natural inclination towards virtue, but women also . . . Women are pleased no less than men by noble and just deeds, and reject the opposite of such actions."

JULIUS PAULUS

Regarded as one of the most important Roman jurists in the second and third centuries A.D., Paulus believed that custom, not inferiority, was the reason women could not be appointed as judges. He argued that it was not lawful for a father to separate his daughter from her husband if she did not agree to the separation, and that a dowry could only be claimed with a daughter's consent. He also said there was no justification for limiting women's rights over their property. Paulus's call for changes to the law to reduce discrimination against women was never answered in his time.

proclaimed: "Why should we pay taxes when we have no part in the honors, the commands, the state-craft, for which you contend against each other with such harmful results?"

On that occasion, Hortensia carried the day: The tribunes were forced to reduce the number of women affected by the new tax and to include wealthy men, too. The triumph was, however, a rare one. Throughout much of Rome's history, women could not make a will and most legal business they engaged in was subject to male supervision. In some cases they did not inherit property, and they could not pass their property on to their own children.

During the early imperial era, however, female activity outside of the *domus* (home) began to increase. Although female emancipation was not the aim, women's rights started to improve as a consequence of legislation. Emperor Augustus enacted laws to raise the birthrate and strengthen the institution of marriage, which gave women benefits for having more children. Freeborn women who gave birth to at least three children, and freedwomen who had at least four children, could be legally independent and did not have to remarry if widowed.

WOMAN OF POWER

Augustus' niece Antonia Minor, depicted on this bronze coin (below), remained an independent, unmarried widow. She had a cruel reputation: When her daughter Livilla conspired against Emperor Tiberius, Antonia starved her to death.

BRIDGEMAN/ACI

The Augustan Age

Augustus' wife Livia Drusilla enjoyed considerable power and respect in Roman society. Livia accrued a huge fortune, helped craft her husband's diplomatic relations, and was one of few Roman women to be depicted on monuments, most notably Augustus' Ara Pacis, the Altar of Peace, where only she and her emperor husband wear a laurel wreath.

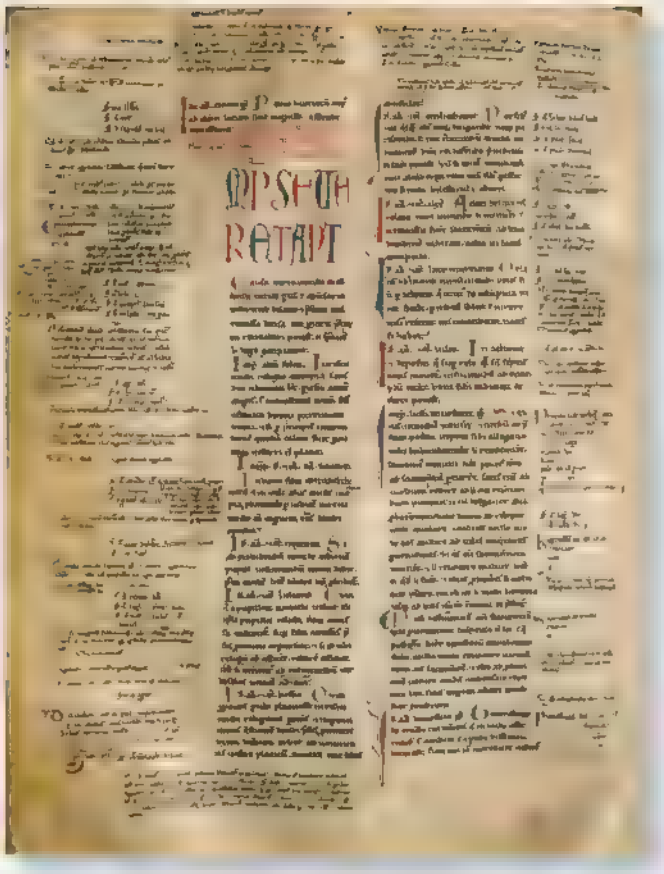
While most Roman poets focused on men, Ovid took care in his poetry to include Livia in his confident prediction of the flourishing of the Augustan line, in which "Livia shall be a new divinity, Julia Augusta." Her ascension marked an attitude shift toward women, who were now seen as more capable. A tiny minority of rich noblewomen were steadily gaining control over political power and their own finances. But Livia also symbolizes, paradoxically, a reliance

GAIUS

The most enigmatic of the Roman jurists, Gaius's full name is not known. Believed to have been active in the middle of the second century A.D., he is perhaps best known for his assertion that the law of guardianship, enshrined in Rome's ancient Law of the Twelve Tables, was no longer valid: "There seems . . . to have been no very worthwhile reason why women who have reached the age of maturity should be in guardianship; for the argument which is commonly believed, that because they are scatterbrained they are frequently subject to deception and that it was proper for them to be under guardians' authority, seems to be specious rather than true."

JUSTINIAN AND THEODORA

The sixth-century A.D. law code issued by the Byzantine emperor Justinian was drawn up by a committee of jurists, reflecting the views of Justinian's wife and co-ruler, Theodora. This compilation of laws stated "there is no difference between men and women." It also rejected the injustice of denying women certain rights and did not recognize sex-based reasons *(ratio sexus)* as justification for discrimination. It regarded it as deeply unjust that "[women] do not have the same right to inherit from one another or from men, but instead are penalized for having been born female."



on traditional roles. She wielded influence only in private and through her husband and sons. In public she carefully projected the image of a respectable matron.

Some of the younger generation in Augustus' family were able to take advantage of these new changes. One example was Antonia Minor, Augustus' niece and Livia's daughter-in-law. After fulfilling her duty to the state by giving birth to three children—Germanicus, Livilla, and the future emperor Claudius—she decided not to remarry. She was thus able to enjoy the full legal benefits of being a widow, left in peace to manage her vast property herself without male interference. The republican ideal that making a fortune was vulgar or undignified was being abandoned. More women owned vast estates and managed them personally.

Not all women enjoyed new freedom. Augustus' own beloved daughter, Julia the Elder, paid a steep price for flagrantly breaking the rules of Roman society. A bright and articulate woman, Julia was publicly punished by her father for adultery and promiscuity. Calling his daughter a "disease in my flesh," he dissolved Julia's marriage to future emperor Tiberius and then exiled her to the tiny island of Pandateria in 2 B.C. He gave orders that upon her death, she was not to be buried in his mausoleum. Julia's punishment didn't end with her father's death. When Tiberius took power in 14 A.D., he punished her further by withholding her allowance. Julia died later that year of starvation, some sources say.

The fates of Livia, Antonia, and Julia showed the growing fractures in old Roman ideas about women. The republican biases toward women were falling away as women were able to move in society with more independence. Despite these advances, some traditional attitudes persisted. The first-century A.D. philosopher Seneca argued that "men and women contribute an equal share to human society, but the one is born to command, the other to obey." For Rome's women, these entrenched beliefs would slow progress, limiting most of these new advances to the wealthiest women in the empire.

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THE RIGHTS OF WOMEN

A 13th-century copy of the Justinian Code (above) reproduces the decree issued in A.D. 529. Co-crafted by Justinian's wife, Theodora, its take on equality forms the basis for many modern legal systems.

PRISMA/ALBUM

WORKING WOMEN

Despite discrimination, there are notable cases of independent women

ALCESTE
DETAIL OF A PAINTING FROM POMPEII. NATIONAL ARCHAEOLOGICAL MUSEUM, NAPLES

BANKERS

In 1959 a hoard of wooden tablets was found near Pompeii. Dating between around A.D. 26 and 61, they detail a series of banking transactions made in the rich province and yield ample evidence that women were both lenders and borrowers. Historians believe that although women needed a guarantor to vouch for them, they could, at this stage in Roman history, take or give loans in their own right.

MANAGERS

Although some very wealthy women were landowners, it was not common to find women who actually managed property. One landowner, Valeria Maxima, believed to be living in the first century A.D., employed two female managers, Eucrotia and Cania Urbana, to run her estate. Another case was Prastina Maxima, the administrator *(autrix)* for a rich senatorial family.

MANUFACTURERS

Some rich women owned clay quarries, such as Domitia Lucilla Minor, mother of the second-century emperor Marcus Aurelius. She is known to have taken an active part in the business, which produced bricks and other hugely lucrative building materials.

MERCHANT SHIP
TRANSPORT ON A FRESCO FROM OSTIA. WOMEN WERE KNOWN TO OWN SHIPS AND TRADE IN CEREALS.

OF THE EMPIRE

Women flourishing in traditionally male roles

GLADIATOR. SOME WEALTHY WOMEN ALSO OWNED GLADIATORS. PAINTING FROM POMPEII. NATIONAL ARCHAEOLOGICAL MUSEUM, NAPLES

TRADERS

Pompeii was an important center for packaging and distributing *garum*, or fish sauce. Several women worked for the city's garum magnate, Aulus Umbricius Scaurus—including Umbricia and Eutyches. Although Scaurus called the shots, the fact that the names of these women appear on the inscriptions on amphorae strongly suggests they enjoyed independence in their business affairs

DOCTORS

Many women were specialists in childbirth and gynecological conditions. There is, however, also evidence that women worked in other areas of medical science. A second- or third-century epitaph to one Domnina praises her for having "delivered your father and from disease." Another Roman inscription by Glycon, a doctor, gives his wife Pantheia qualified praise for "raising high our common fame in the art of medicine, and even though a woman, you did not fall short of my skill."

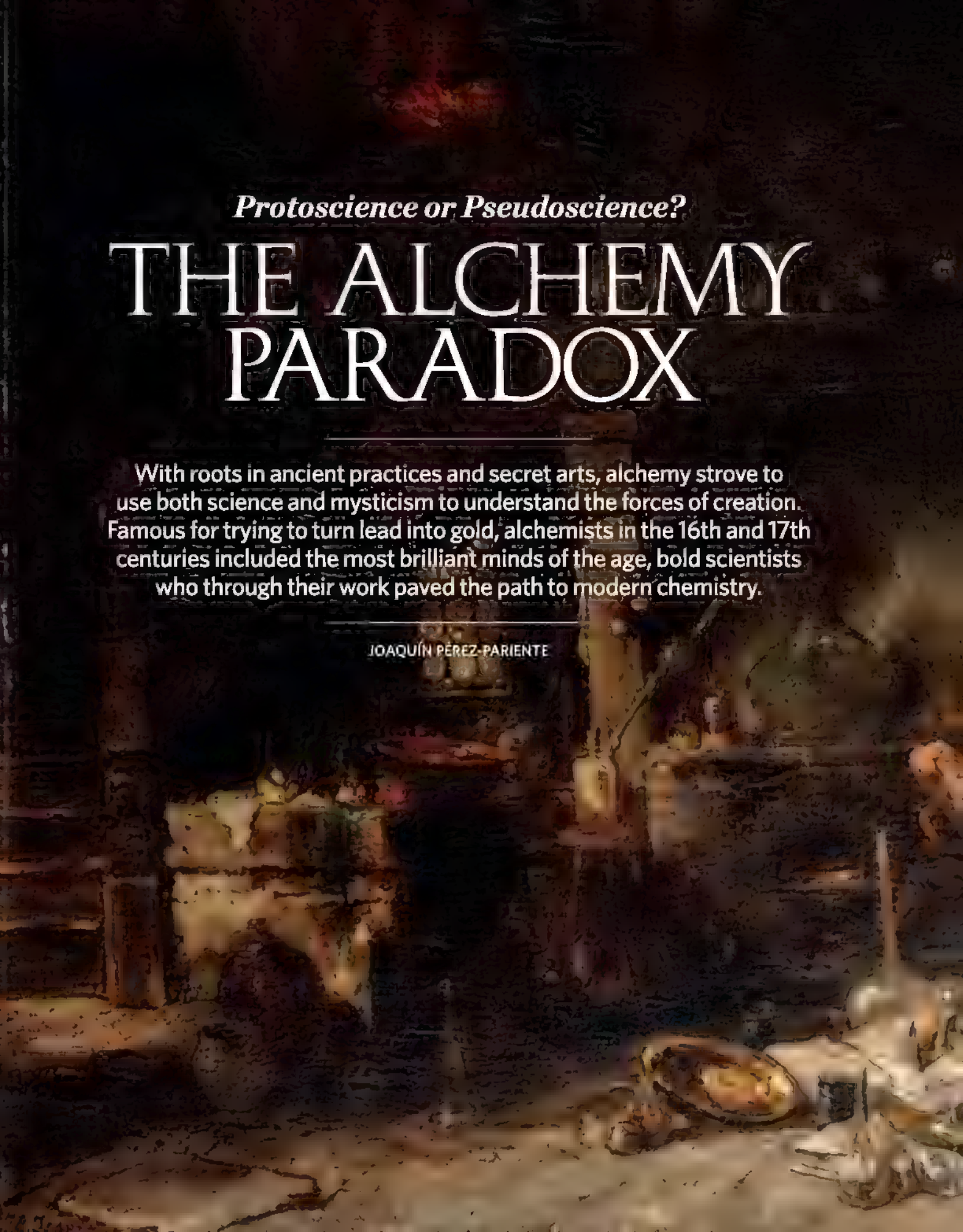
BACKGROUND [illegible] FROM LEFT TO RIGHT [illegible] FLORENCE BRIDEMAN/ART SERA 9, FLORENCE

Protoscience or Pseudoscience?

THE ALCHEMY PARADOX

With roots in ancient practices and secret arts, alchemy strove to use both science and mysticism to understand the forces of creation. Famous for trying to turn lead into gold, alchemists in the 16th and 17th centuries included the most brilliant minds of the age, bold scientists who through their work paved the path to modern chemistry.

JOAQUÍN PÉREZ-PARIENTE



FOOL'S GOLD
An alchemist's fruitless search for the philosopher's stone is depicted in a cluttered study filled with papers, books, and flasks in Eugène-Louis-Gabriel Isabey's 19th-century painting. Palais des Beaux-Arts, Lille, France

THIERRY LE MAGE/RMN-GRAND PALAIS

One 17th-century manuscript handwritten by Isaac Newton came up for auction in 2016. It contained cryptic instructions for preparing "sophick mercury," an alchemist's potion. Isaac Newton, the scientist, literally wrote the book on the fundamental laws of motion, but his interest in the more mystical side of science was well documented. It turns out, this scientist was also an alchemist.

Over the course of his life, Newton wrote more than one million words on the subject of alchemy. After publishing his landmark work *Mathematical Principles of Natural Philosophy* (better known as the *Principia*) in 1687, he was quick to return to his alchemical pursuits at Cambridge University in England.

Today the word "alchemy" evokes magical images of wizened men surrounded by dusty books and bubbling potions, but in Newton's time, it fell in the realm of legitimate scientific inquiry. Much like astrology attempted to explore the effects of the cosmos on humanity, alchemy aimed to understand the fundamental relationship between the life force and inert matter. It blended wisdom gleaned from practical arts—such as metallurgy, medicine, and glassmaking—with abstract ideas from philosophy and religion.

Through experimentation, alchemists hoped to learn how the mystical spark of life could change or "transmute" matter to improve it. Base metals, like lead, could change to higher metals, like gold. The spark of life could perhaps thwart disease, prolong human life, or grant immortality. Much like astrology would give way to astronomy, so alchemy would eventually lead to chemistry.

ALCHEMICAL DISK FROM THE 18TH CENTURY MUSEUM OF THE HISTORY OF MEDICINE, PARIS
BRIDGEMAN/AC

While alchemy's exact origins are difficult to pinpoint (many civilizations explored the relationship among matter, spirit, and life), historians have traced the discipline's Western history to scholars in Harran in Syria and in ancient Egypt around the time of Alexander the Great's conquest. The roots of the word "alchemy" remain obscure. Some scholars believe the word blends Greek and Arabic, reflecting the influence of both cultures. The Greek word for Egypt, Khemia, was paired with the Arabic prefix *al-* to create a new name for the region: al-Khemia.

Many early alchemists studied in Alexandria, Egypt, but their texts were lost to the West for centuries until scholars in Spain and Sicily translated them from Arabic and Greek into Latin in the 12th century. Renewed access to these texts ignited interest in alchemy. Scholars in the coming centuries would pursue these lines of thinking with great interest.

Alchemy 101

Many of these translated texts did not provide step-by-step instructions for re-creating the work of ancient alchemists. Manuscripts were laden with arcane terms: Green Lion, Sophick Mercury, the Horned Head, Doves of Diana, Divine Water, and Universal Spirit. They were often illustrated with beautiful but obscure symbols and images.

These mysterious symbols, cryptic codes, and religious images drove scholars to decipher what they believed was the wisdom of the ancient world. To protect their work, they guarded their findings and even coded their terminology. Despite this willful attempt to conceal their art, it has been possible to extract some common ideas from texts that point to the main theoretical concepts in Western alchemy.

HIS DARK MATERIALS
An alchemist preparing ingredients. Illustration from the 15th-century vellum manuscript *The Ordinal of Alchemy* by Thomas Norton. British Library, London
BRIDGEMAN/ACI

ADVANCES OF ALCHEMY

1583
Elizabethan alchemists John Dee and Edward Kelley begin a tour of central Europe, and they are welcomed at the court of Rudolf II in Prague.

1600-1620
Many alchemical treatises, including *Atalanta fugiens*, are published in this period. In 1620 Francis Bacon expounds the scientific method in his *Novum organum*.

1648
Emperor Ferdinand III is said to witness the transmutation of mercury into gold in Prague. Similar claims will follow in the next decades.

1654
Writing as Eirenaeus Philalethes, Harvard scholar George Starkey publishes *The Marrow of Alchemy*, an influential volume of the time.

1687
Isaac Newton publishes his *Mathematical Principles of Natural Philosophy*, known as the *Principia*. His work lays the foundation for modern scientific practice, yet Newton still pursues alchemy with great interest.

ISAAC NEWTON
ANONYMOUS OIL PAINTING. SCIENCE MUSEUM, LONDON
AKG-IMAGES

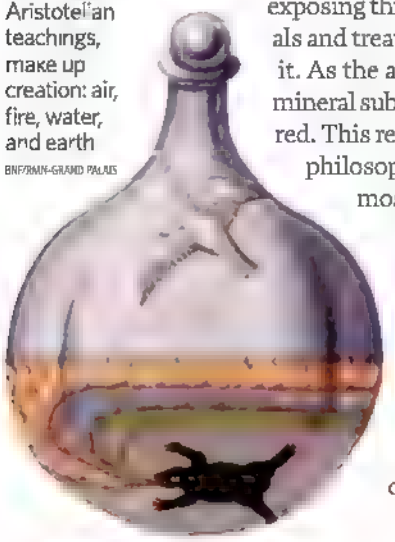
Collecting Condensation

THE ESSENTIAL INGREDIENT of alchemical operations was believed to be invisible. Referred to by the treatises as the "universal spirit," it was a vital element that impregnated the cosmos from the dawn of creation and was the impetus for all transformations that occurred on Earth. The alchemists desired to capture this spirit to harness its power. It was believed that this force manifested itself most strongly in springtime, when life returns after winter, and the world trades frost for dewdrops. Dew was believed to be rich in this mystical substance, and people would collect it by stretching out pieces of cloth at night to collect the condensation. This 1677 engraving from the *Mutus liber* shows a man and woman wringing out the dew into a vessel. The artist signals it is spring by including two astrological signs of the season: Aries the Ram (left) and Taurus the Bull (right).

MARY EVANS/AKG

ELEMENTAL
This 18th-century miniature depicts a vessel decorated with the elements that, according to Aristotelian teachings, make up creation: air, fire, water, and earth

BNF/PMN-GRAND PALAIS



One essential idea was that the work of the alchemist was similar to that of God during creation. The alchemist worked with a mineral substance similar to the *prima materia* (first matter) present during the initial chaos of creation. By exposing this raw substance to a series of rituals and treatments, the alchemist could purify it. As the alchemical process progressed, the mineral substance changed color from black to red. This red product was called the elixir, or a philosopher's stone; it contained the cosmos' concentrated, vital energy.

According to some alchemical treatises, the philosopher's stone could turn base metals into gold. During the late Middle Ages, alchemists conceived of metals very differently than now. Rather than seeing elements, all metals were thought to be compounds, composed of different substances in different concentrations. A skillful alchemist could apply a philosopher's stone to manipulate the metal and transmute it into a higher substance, like gold.

One of the first authors to enter into alchemical medicine was the English Franciscan monk Roger Bacon, in the 13th century. Although Bacon was a pioneering scientific experimentalist, he also believed that alchemy could prolong existence to the point of achieving the longevity of the biblical patriarchs, some of whom apparently lived for as long as 900 years. He argued that humanity had suffered a process of degeneration since the time of the patriarchs but that alchemy could redress this.

Only a very few people, however, were believed to have the knowledge and skills to prepare this extraordinary healing substance. In the mid-14th century the Franciscan monk John of Rupescissa proposed his theory of quintessence, a supposedly more accessible procedure than producing a philosopher's stone. He argued that in all material substances there existed a quintessence, or fifth element, from which the heavenly bodies were formed.

The quintessence could be activated in alcohol by distilling it in a special container. Maintained at moderate temperature (that of fresh horse manure, it was advised) for a month, the liquid was successively evaporated and then recondensed. According to a 16th-century text, "those who smell [the quintessence] believe themselves transported to the Land of Paradise to capture the celestial fragrance." It was believed that by swallowing this substance its perfection restored health. It is no coincidence that these methods gained popularity at a time when Europe was reeling from the outbreak of the Black Death.

Good as Gold

Gold was deemed a noble metal by medieval scientists. Its malleable nature as well as its resistance to corrosion and oxidation made it seem a perfect substance. It was believed by alchemists to be capable of curing disease. All attempts to prepare potable gold failed until the discovery of nitric acid around 1300. When this compound is mixed with ammonium chloride or common salt it produced aqua regia (royal water), a yellowish fuming liquid that dissolves metals, including gold. Unfortunately for those who then tried to drink this "remedy," it also dissolves people. In the 16th and 17th centuries many potable gold

"AS ABOVE, SO BELOW"

This illustration, reproduced in *Opus medico-chymicum* (1618) by Johann Daniel Mylius, illustrates the key alchemical formulation "as above, so below." This notion, that the laws that govern the heavens also rule the earth, had a clear appeal to those exploring universal laws, such as Isaac Newton. It also reflects how alchemical ideas were reconciled with a Christian world view. In the upper section is the Trinity: ① the Father, ② the Son, and ③ the Holy Spirit. In the central section, within the concentric circles, appear the three alchemical elements: ④ mercury, ⑤ sulfur, and ⑥ salt. Below, five birds appear representing alchemical operations. The lower realm corresponds to earth: ⑦ the male archetype Adam associated with the sun, ⑧ the female archetype Eve, associated with the moon, both linked to the divine world above. Between the two are seven trees ⑨ representing the seven metals, with gold at the summit touching the heavenly spheres.

Anxious About Alchemy

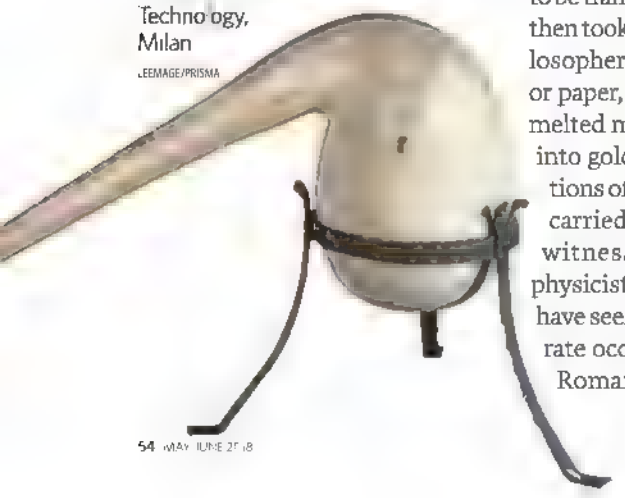
ALONG WITH scholars who experimented with optics or magnets, alchemists fell under suspicion for presuming to understand the secrets of God's creation. Antipathy toward alchemists was also bound up with their knowledge of metallurgy: In the third century A.D. Emperor Diocletian ordered the alchemical texts of the Egyptians to be destroyed, fearing that the gold they might produce could undermine the empire's economy. Although some early Christian authors criticized alchemy, large numbers of alchemical texts were being copied by monks by the 1300s. Even so, anxiety over the compatibility of faith and science persisted, expressed in the story of Doctor Faustus (shown here in his study in Rembrandt's 1652 engraving). Wearied by the slow pace of virtuous experimentation, Faustus turns to the dark arts to make a deal with the devil that will consign his soul to eternal perdition.

GUIDO COLOR/ALBUM

ESSENTIAL WORK

Alchemists carried out distillations in glass vessels such as this 17th-century retort, to extract the "quintessence." National Museum of Science and Technology, Milan

LEEMAGE/PRISMA



recipes circulated, each trying to solve the conundrum of dissolving gold for safe consumption, but with little success.

At this time, an astonishingly large number of witnesses were prepared to testify to having seen metals such as mercury and lead turned into gold or silver. The process was always the same: The alchemists melted the metal to be transmuted in a crucible. They then took a small fragment of a philosopher's stone, wrapped in wax or paper, and rubbed it against the melted metal until it transformed into gold. Numerous transmutations of this type were apparently carried out in front of qualified witnesses. Early chemist and physicist Robert Boyle claimed to have seen it happen on three separate occasions. In 1648 the Holy Roman emperor Ferdinand III claimed to have witnessed the changing of a large quantity of mercury into gold. Twenty years later the German Johann Friedrich Schweitzer claimed a stranger gave him a sulfur-colored powder capable of transmuting lead into gold. A book published in 1784 selects 112 similar cases.

Science's Golden Age

As interest in alchemy rose between the 16th and 18th centuries, science was also experiencing a golden age, dubbed the "scientific revolution." Huge strides were made in scientific understanding—from Copernicus's theory of heliocentrism to Newton's description of the laws of motion. Many of these advances came about, in part, because of better scientific standards, like those developed by scholar Francis Bacon (no relation of Roger). A nobleman in the court of Elizabeth I and later James I, Bacon wrote that "The best proof by far is experiment." This idea became the cornerstone of the scientific method, by which theories are proposed after direct observation and experimentation rather than being based on tradition, superstition, or religion.

When Francis Bacon was developing his new idea, alchemy still fell into the realm of science. While alchemists attributed mystical causes to results, they did carry out scientific experiments that resulted in genuine discoveries. John Dee, a gifted Elizabethan mathematician, astronomer, and alchemist, is a good example of this duality. Caught between magic and science, Dee taught navigational skills to the sailors who would embark on voyages of discovery, while he also claimed the ability to communicate with angels.

Elsewhere in Europe at the time, interest in alchemy intrigued people at all levels of society, whether physicians, apothecaries, peddlers, nobles, or priests. The Medici rulers of Tuscany financed alchemical research. Holy Roman Emperor Rudolf II was as fascinated by alchemy as he was by astronomy. Rudolf attracted Elizabethan alchemists and occultists to his court in Prague, including Edward Kelley and John Dee.

Those in the upper echelons of power remained cautious: The ability to create gold would be marvelous—but only, of course, if the knowledge remained in the "proper hands." In the wrong hands, power could be lost, or anarchy could result. Even so, fascination with alchemy was not all about wealth; many of its practitioners were genuinely motivated by the quest for physical healing and spiritual enlightenment.

BRITISH LIBRARY, LONDON/BRIDGEMAN/ACI

ALL THE COLORS OF THE PEACOCK

The treatment of material to create the philosopher's stone was believed to follow a set pattern. During the process, the material being transmuted took on various colors. The three main stages were black, white, and red, each appearing one after the other. In texts, the phases are sometimes represented by the raven, the swan, and the phoenix. The exact sequence of colors was important because it showed that the process was progressing correctly as each variation corresponded to a different phase and to different temperatures. The texts also describe intermediate phases during which iridescent colors could appear. This phenomenon was often compared to the beauty of a rainbow or a peacock's tail. The illustration above appeared in the manuscript *Splendor Solis* from the late 16th century and depicts a peacock inside an alchemical vessel showing off the colors of its tail in all their jewel-toned brilliance.

MAGICAL CITY
In the late 1500s the Holy Roman emperor Rudolf II made Prague a hub of Renaissance learning, inviting the most brilliant European minds of the day to his court here. These included Francis Bacon, astronomer Johannes Kepler, and alchemist John Dee.

IAN WLODARCZYK/AGE FOTOSTOCK

Michael Maier's Mysterious Emblems

MICHAEL MAIER'S 1617 *Atalanta fugiens* presents 50 enigmatic "emblems," each interposed with epigrams and musical scores. Considered to be the pinnacle of printed alchemical literature, this work reflects the age's thirst for "hidden" esoteric knowledge. Its singular combination of images, text, and music—an early example of multimedia—is explained in the treatise's introduction, in which Maier writes: "We have joined Optics to Music and the sense to the intellect," in order to gain "a single view and embrace these three objects of the more spiritual senses." The picture on the left is an example of the mysterious symbolism included in the work. It shows emblem 50: a dragon and a woman, drenched in blood, destroying each other. They represent opposing forces that cancel each other out, the dragon symbolizing fire and earth, while the woman is water and air.

WELLCOME LIBRARY, LONDON

MERE MORTAL?
This 18th-century engraving depicts 14th-century scribe and alchemist Nicolas Flamel. His death was recorded in 1418, and Flamel was buried in the Paris church of Saint-Jacques-de-la-Boucherie.

EEEMAGE/PRISMA

In the early 17th century Italian astronomer Galileo peered through his telescope and observed four moons orbiting Jupiter, a phenomenon that helped prove that Earth is not at the center of the universe. Galileo's 1610 observations spurred on the scientific revolution, but even as his observations were being disseminated throughout Europe, large numbers of influential alchemical treatises were also being published.

In 1612 the *Book of Hieroglyphical Figures* was also provoking widespread interest. Attributed to Nicolas Flamel, a 14th-century French scribe turned alchemist, the book describes how Flamel allegedly discovered the secret of the philosopher's stone with which he went on to achieve immortality. (Flamel has made appearances in modern works of science fiction and fantasy; he and his philosopher's stone feature heavily in J. K. Rowling's Harry Potter series). Records show that Flamel died in 1418, but many theorized he faked his death and was still alive.

Another example of a popular alchemical treatise of this golden age was *Atalanta fugiens*, published in 1617 by the German alchemist Michael Maier. It is believed Maier belonged to the Rosicrucian movement, a secret society that emerged during this period and claimed to have access to ancient secret knowledge. Alchemy had even spread to the New World. In the 1600s Harvard scholar George Starkey (using the rather more impressive pseudonym of "Eirenaeus Philalethes") wrote alchemical works that deeply influenced Isaac Newton.

Although Newton's *Principia* could only be understood by a learned few when it was published in 1687, Newton's intention was to reveal and explain the workings of the natural world using the scientific method. Among his revolutionary ideas are the three laws of motion that are fundamental to modern physics and which understand the complexity of the entire universe as a wonderfully simple set of general laws.

Alchemy's Legacy

As demonstrated in the case of aqua regia and nitric acid, alchemists did make important chemical discoveries and practical achievements. Modern scientists owe the discovery of the production of sulfuric acid—a key component in many chemical processes—to the experiments of a European alchemist from the early 13th century. Many instruments and techniques used in laboratories today had their origins in the workshops of alchemists. Scientific laws and maxims were developed and tested through their work as well. Such triumphs help explain why alchemy and mainstream science remained intertwined for so long.

As Enlightenment values spread throughout Europe and North America in the 1700s, the alchemical notion of a "universal spirit," began to look more like superstition and less like real science. Alchemical ideas lingered on in the form of dubious products hawked by charlatans. By then, however, most scientists had begun to accept that changes in matter took place thanks to material, not spiritual, changes. The old alchemy was on its way to being "transmuted" into the new science of chemistry.

JOAQUÍN PÉREZ-PARIENTE IS A CHEMIST AT SPAIN'S NATIONAL RESEARCH COUNCIL AND A WRITER ON THE HISTORY OF SCIENCE AND ALCHEMY.

A ROYAL STIR

Francesco I of Medici, the Grand Duke of Tuscany (bottom right), stirs a vessel, surrounded by assistants, in his alchemical laboratory, in Giovanni Stradano's 1570 oil painting. Palazzo Vecchio, Florence

IMAGE: ARCHIVE OF THE GRAND PALAIS

ACTUAL ALCHEMY

Some alchemical texts describe lab experiments that can be replicated today. Based on notebooks written in the 17th century, Johns Hopkins University professor Lawrence M. Principe performed alchemical procedures like those followed by Robert Boyle and Isaac Newton. He published his findings in his 2013 book, *The Secrets of Alchemy* (University of Chicago Press).

▲ **ALCHEMISTS** OFTEN COMBINED ANTIMONY (ABOVE) WITH SILVER TO FORM AN ALLOY IN ONE STEP OF THE ALCHEMICAL PROCESS TO PRODUCE "SOPHICK" MERCURY

▼ **IN THIS ILLUSTRATION** FROM THE 1599 ALCHEMICAL TREATISE *THE TWELVE KEYS*, THE ASTROLOGICAL SYMBOL OF THE PLANET MERCURY APPEARS BEHIND THE FLOWERS.

ANTIMONY: SPL/AGE FOTOSTOCK. ILLUSTRATION: CULTURE-IMAGES/ALBUM. BACKGROUND: GRANGER/ALBUM

The process pieced together by Principe starts with forming an alloy of two metals: silver and antimony, the latter of which is derived from the sulfite mineral stibnite. This alloy is treated with mercury until it forms an amalgam. The amalgam is then distilled to separate off the mercury again. The process of forming an amalgam and then separating off the mercury is carried out several times. The result is a variant of mercury that contains properties not found in common mercury. One such new property is that when this new form of mercury is placed in a flask with gold and heated gently, the gold dissolves easily, giving off heat. Also, after a while the gold in this mixture of special mercury and gold begins to adopt tree-like shapes known by chemists as metallic trees or the Tree of Diana [above]. When the alchemists saw this remarkable change happening, it must surely have suggested that they were indeed vitalizing the mineral before them. It was this process that the alchemists followed in order to obtain the so-called philosopher's, or "sophick," mercury, one of the essential ingredients for the transmutation of base metals. It shows how the metaphorical language used in the alchemical treatises, for example, the Tree of Diana, in fact describes real chemical processes.

SPL/AGE FOTOSTOCK

"Sophick Mercury"

Mercury, sulfur, and salt were alchemists' three main elements, although they did also use elements obtained in the laboratory. In the drawing opposite, two serpents are entwined around the winged caduceus of Mercury. They represent the metallic elements referred to, in highly cryptic terms, by alchemist Nicolas Flamel: "The male sulphur is nothing but fire and air . . . The feminine sperm is argent vive, which is nothing but earth and water." Together, they give rise to a product from which philosopher's mercury can be made. During this phase the material reverts to a black color

CADUCEUS (MERCURY'S STAFF) WITH ENTWINED SERPENTS, IN A DRAWING FROM THE *BOOK OF ABRAHAM THE JEW* BY NICOLAS FLAMEL. BIBLIOTHÈQUE NATIONALE DE FRANCE, PARIS. RMN/RMN-GRAND PALAIS

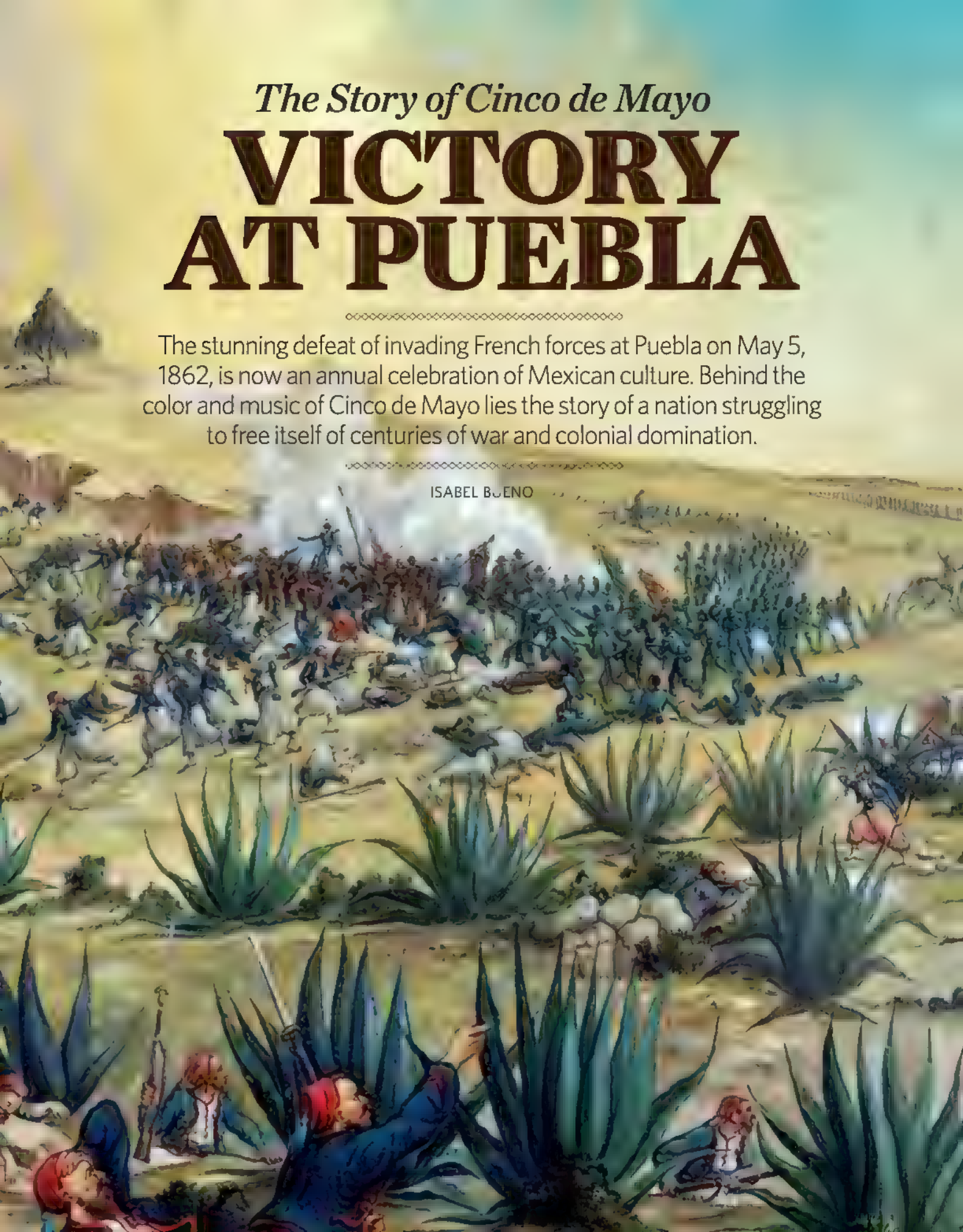
FATEFUL DAY
French forces in the foreground are repelled by General Zaragoza's Mexican army outside Puebla on May 5, 1862. Painting by Patricio Ramos Ortega. National History Museum, Mexico City

The Story of Cinco de Mayo

VICTORY AT PUEBLA

The stunning defeat of invading French forces at Puebla on May 5, 1862, is now an annual celebration of Mexican culture. Behind the color and music of Cinco de Mayo lies the story of a nation struggling to free itself of centuries of war and colonial domination.

ISABEL BUENO



From the Jaws of Defeat

July 1861
Mexico is reeling from civil war. President Benito Juárez freezes repayment of Mexico's debt with France, Britain, and former colonial ruler, Spain.

October 1861
France, Britain, and Spain sign the London Convention, agreeing to send military forces to Mexico. Their troops will begin landing at Veracruz in January 1862.

February 1862
Mexico's foreign minister, Manuel Doblado, secures agreement from the Europeans not to advance while the debt is being negotiated.

March 1862
The French renege on the deal and show signs of moving west. The San Andrés Chalchicomula munitions explosion kills many Mexican soldiers.

April 1862
Spain and Britain break with France and withdraw. Advancing French troops overcome Mexican troops at the Cumbres de Acultzingo.

May 2, 1862
French troops march on Puebla. General Zaragoza distributes his ill-equipped forces throughout the city to prepare its defense.

May 5, 1862
Although Zaragoza's forces are outnumbered and out-armed, the French are repulsed at Puebla, a stunning Mexican victory celebrated to this day.

FROM START TO FINISH

Diego Rivera's 1951 mural at the National Palace, Mexico City (above), depicts the Spanish conquest in 1519. Mexico finally shut the door on European colonialism with the expulsion of the French in 1867.

CINCO DE MAYO POSTER IN ST. PAUL, MINNESOTA
STEVE SKJOLD/ALAMY/ACI

Parades, brightly colored dresses, sizzling street food, festive music, and laughter fills the streets every May 5, a date circled in revolutionary red on any Mexican calendar. On May 5, 1862, a ragtag Mexican army defeated the better-equipped hosts of the Second French Empire at the Battle of Puebla. The battle itself did not decide the war—the French returned to capture Puebla and Mexico City in 1863. France controlled Mexico until 1867, when Mexican troops overthrew their government and returned to being an independent republic.

Over time, the Battle of Puebla grew in national significance. The victory strengthened the morale of a very young Mexico and became the rallying cry of resistance to foreign domination. In commemoration of this day, Cinco de Mayo began as a celebration of the French defeat, but the holiday has grown and changed with time. For Mexicans in Puebla, as well as Mexican-Americans in the United States, it has become a complex symbol of Mexican culture, resilience, and character.

AKG/ALBUM 2018 BANCO DE MEXICO DIEGO RIVERA FRIDA KAHLO MUSEUMS TRUST MEXICO D.F./VEGAP

MESTIZO NATION

THE SQUARE of the Three Cultures in Mexico City embodies how many different ethnicities shaped the nation. It is dominated by the Church of Santiago de Tlatelolco (right), built in the 16th century over the still visible ruins of Aztec-era temples. Nearby, a plaque describes the toppling of the Aztec Empire by Spain in 1521: "Neither a victory nor a defeat, but the painful moment of birth of the Mexico of today, a race of Mestizos."

AKG/ALBUM

Fractured Foundations

To understand the Battle of Puebla, it is necessary to understand the roots of Mexico itself, going back to the 16th century. After Spain defeated the Aztec Empire in 1521, a new, blended society arose in Mexico, bringing together several different cultures. Finding a balance between its pre-Hispanic roots and new European identity proved challenging.

For three centuries after Cortés's invasion, España Nueva (New Spain) was the most important overseas province of the Spanish Empire. It was ruled by a viceroyalty made up of many indigenous aristocratic families who had sought an alliance with the Spanish in order to defeat the Aztec Empire. Even so, resentment and tensions between Mexican natives, the Spanish, and the criollos—those of European origin who had been born in America—continued to grow, creating a shaky basis for the colony.

In 1808 Spain was invaded by the Napoleonic armies, which weakened Spanish control of New Spain. Many of the colonists wanted independence, and like many other colonies in the New World, they seized their moment and rebelled. On September 16, 1810, Miguel Hidalgo y Costilla, a priest and political leader in the central Mexican town of Dolores, exhorted Mexicans to rise up in a fiery speech delivered from his pulpit—the "Cry of Dolores." War followed, ending with Mexico's defeat of Spain in 1821. Hidalgo became the father of his country, and September 16 is celebrated as Mexico's Independence Day.

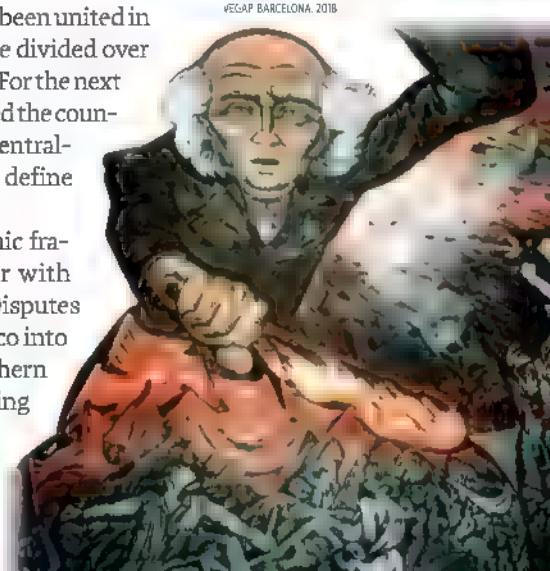
Even though the colonists had been united in a desire to be free, Mexicans were divided over the direction of their new nation. For the next 40 years, internal tensions wracked the country. Liberals, conservatives, and centralists all clashed as they sought to define Mexico's future.

Internal upheaval and economic fragility were compounded by war with the United States in the 1840s. Disputes over control of Texas drew Mexico into a two-year conflict with its northern neighbor in 1846. In a humiliating surrender, Mexico ceded to the

CRY FREEDOM!

Priest Miguel Hidalgo is depicted here in a detail from a mural by Jose Clemente Orozco. He rallied the Mexican independence movement from his pulpit in 1810.

ALBUM/© JOSE CLEMENTE OROZCO, VEGAP, BARCELONA, 2018



Protagonists of Puebla

BENITO JUÁREZ

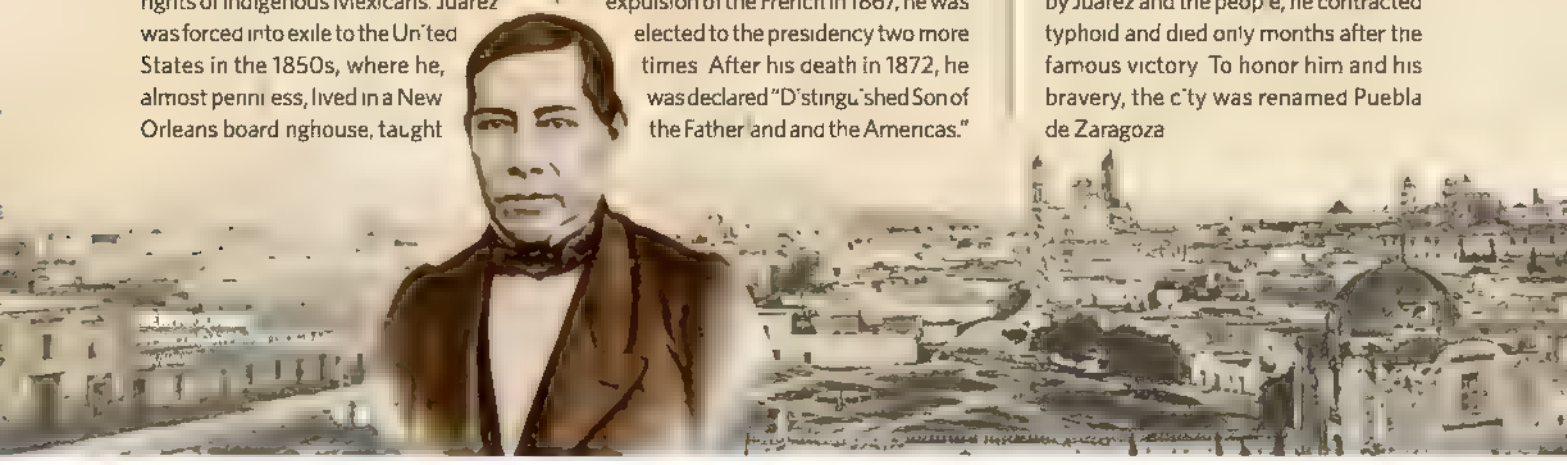
The ambitious leader who rose above his humble origins and led a divided Mexico through war

Born in 1806 to Mesoamerican parents, Benito Juárez grew up in Oaxaca, where for much of his childhood he spoke solely the regional Zapoteco language. Having learned to speak Spanish and also studied the law, he took up a number of local and regional government posts while working tirelessly to improve the rights of indigenous Mexicans. Juárez was forced into exile to the United States in the 1850s, where he, almost penniless, lived in a New Orleans boardinghouse, taught himself English, and discussed politics in the city's bars with other Mexican emigrés. He returned to Mexico in 1855 and took up the post of justice minister, introducing important, if divisive, reforms. Juárez was briefly imprisoned during the Reform War, following which he was elected president of Mexico in 1861. In the ensuing debt crisis and foreign French invasion, the Battle of Puebla was an unexpected victory. Following the expulsion of the French in 1867, he was elected to the presidency two more times. After his death in 1872, he was declared "Distinguished Son of the Fatherland and the Americas."

GENERAL ZARAGOZA

The tragic, young general who made a plan, stood his ground, and emerged victorious

Born in Texas in 1829—then a part of Mexican territory—Ignacio Zaragoza served as Juárez's war minister in 1861, at only age 32, and then as general of the Army of the East, whose ill-equipped forces repelled the French attack on Puebla on May 5, 1862. After a brief visit to Mexico City, where he was acclaimed by Juárez and the people, he contracted typhoid and died only months after the famous victory. To honor him and his bravery, the city was renamed Puebla de Zaragoza.



United States its claims to Texas, Utah, Nevada, and California, along with swaths of what are now Arizona, New Mexico, Oklahoma, Colorado, and Wyoming in 1848.

Reeling from the defeat, political tensions increased. The liberal faction favored the separation of church and state and freedom of religion, while the conservatives wanted to maintain ties between Mexico's government and the Catholic Church. Another internal conflict ensued, later known as the Reform War, which ended in 1860 with a liberal victory. The next year, Benito Juárez became president. Born to Mesoamerican parents, Juárez would soon become a crucial player in the Cinco de Mayo story.

Following the liberal resumption of power, disaffected conservatives approached France's Napoleon III to intervene. The French ruler was only too keen to move into the space left by the crumbling Spanish Empire, as well as provide a check on the expansion of the United States. Napoleon III also had a perfect excuse to invade: an 80-million-peso debt Mexico owed to European nations, including France.

FLAGGING FORTUNES

A national flag of Mexico (below) captured by American troops during the Mexican-American War of 1846-48, in which Mexico lost swaths of territory to its northern neighbor.

GRANGER/ALBUM

To War Again

The Mexican-American War and the Reform War devastated Mexico's economy. The nation had taken loans from the United Kingdom, Spain, and France to finance these war efforts, but now Mexico was hard-pressed to pay them back. In the summer of 1861, in an attempt to stabilize Mexico's war-torn finances, Juárez announced that payment would stop for two years. In a short-lived alliance, the United Kingdom, Spain, and

NAPOLEON III

The French emperor who sought power in North America and targeted Mexico to get it

Nephew of Napoleon Bonaparte, Charles-Louis-Napoleon Bonaparte failed at several attempts to seize power in France, before being elected president, consolidating power and declaring himself emperor in 1852. Setting about "to do everything for the prosperity and the greatness of France," he allied with Great Britain to check the advance of Russia in the Crimean War, and intervened against Austria to help Italians in their struggle for independence. In 1861 Napoleon III turned his attention to Mexico in a bid to exploit waning Spanish influence in the region and to halt future American expansion. In spite of the setback at the Battle of Puebla in 1862, Napoleon III defeated Mexico and imposed Maximilian as a puppet ruler. When the United States began to back Mexican efforts to oust Maximilian and his regime in 1867, the French decided to withdraw. At home, Napoleon III's hopes to rebuild France as a great imperial power were dashed by the rise of Germany. Napoleon III was ultimately deposed in 1869 and later died in exile in England

GENERAL LORENCEZ

The overconfident French officer who underestimated an opponent and lost a battle he should have won

Son of an aristocrat general who fought alongside Napoleon at Austerlitz, General Charles Ferdinand Latrille, Count of Lorencez, earned his own stripes in the Crimean War. Racist contempt for the Mexicans influenced a string of poor decisions at Puebla on May 5, 1862. Accounts of his experienced troops retreating from machete-wielding Mexicans appalled those in France and lost him his post.

France sent a joint military expedition to force Mexico to honor the debt. By January 1862, 6,000 Spanish soldiers, 3,000 French troops, and 700 British soldiers disembarked in the Mexican port of Veracruz.

Before the forces moved toward Mexico City, the country's capital, Juárez sent an ambassador to negotiate with the European powers. A meeting was organized in a hacienda near Veracruz named La Soledad on February 19, 1862. There, the Mexican foreign minister, Manuel Doblado, met with the British and the Spanish representatives, who eventually agreed to the Mexican requests to defer payment of the debt. The parties agreed not to advance out of agreed zones near Veracruz while negotiation of the debt was being resolved. The French, however, had their own agenda. Days after talks began at La Soledad, more French troops disembarked, commanded by French general Charles Ferdinand Latrille, Comte de Lorencez.

French intentions were now evident to all, and clearly had little to do with a default on a loan. Napoleon III wanted to topple the Juárez government to access Mexico's resources and, in particular, to take advantage of the instability in the United States, then embroiled in its own civil war and unable to stop a French advance.

Juárez acted quickly and created a new battalion known as the Army of the East, commanded by Gen. Ignacio Zaragoza. The president ordered the fortification of the city of Puebla, anticipating a French march on Mexico City. As predicted, the French troops were advancing on Puebla by late April 1862—on the way to the coveted capital.

The differences between the two armies were glaring. The French army regarded itself as the best in the world, having remained undefeated since the Battle of Waterloo, nearly half a century before. The well-dressed French soldiers were also well armed with pistols, carbines, bayonets, and cannons, and had the invaluable support of the Zouaves, elite French military troops feared all over Europe for their ferocity. The Mexican side, meanwhile, was hampered by lack of combat experience. The few weapons they had were old, and their troops were underfed. To make matters worse, the country was polarized, with

STRONGHOLD OF PUEBLA

Puebla (shown above in an 1865 photograph) held a strategic position because of its location between the port of Veracruz and the capital, Mexico City.

ALINARI/GETTY IMAGES

Mexico on the Edge: Invasion, Explosions, and Defeats

THE SPRING OF 1862 marked a low point in the fortunes of the Mexican republic, following the disembarkation of European forces at **Veracruz** in January. Despite the diplomatic triumph at **La Soledad,** after which Spanish and British troops decided to withdraw, it was becoming clear that French forces were poised to march on **Mexico City.** On March 6, with Mexican commander Ignacio Zaragoza already facing a vastly superior foe, disaster struck. To prevent munitions falling into the hands of the French, a huge arms dump had been created on the outskirts of **San Andrés Chalchicomula.** Careless lighting of cooking fires by Mexican troops detonated the entire store, leaving hundreds of soldiers and civilians dead, and hugely depleting Zaragoza's reserves of munitions. Meanwhile, General Lorencez, the French commander, was studying how to cross the Sierra Madre Oriental mountains to access Mexico's interior. His advance, at the **Cumbres de Acultzingo,** was met by General Zaragoza on April 28, who, despite admirable resistance, was forced to retreat under the intensity of the French attack. The French swept relentlessly on, aiming for the heart of the republic. The next major obstacle was Puebla, which they reached on May 5—Cinco de Mayo.

PUEBLA ON A 19TH-CENTURY ENGRAVING, SHOWING THE LOCATIONS OF THE LORETO AND GUADALUPE FORTS

BRIDGEMAN/AC

VERACRUZ IN A 19TH-CENTURY ENGRAVING BY FREDERICK CATHERWOOD

SUPERSTOCK/AGE FOTOSTOCK

A ZOUAVE SOLDIER IS DEPICTED FIGHTING IN THE CRIMEAN WAR (1853-56) IN THIS ILLUSTRATION.

THE ZOUAVES' FEARSOME REPUTATION

THE MEXICAN defenders of Puebla had every reason to expect a crushing defeat. Among the troops under the command of General Lorencez were the feared Zouaves. Brave, disciplined, and experts in close combat, they were regarded as ideal for Napoleon III's plan to invade Mexico. Men from the Zwawa tribe from Algeria first formed this elite group in the 1830s, but over time its ranks grew to include men of European descent. They fought successfully in the Crimean War (1853-56)—in which General Lorencez also fought. Their role in the Battle of Puebla was exemplary. They spearheaded the French attack, yet though they fought fiercely against the defenders, their commander's errors cost them the battle.

the conservative faction preferring a foreign intervention to being an independent republic.

A great deal, therefore, was at stake, and, at first, the Mexicans looked doomed. On April 28, the Sixth Battalion of the National Guard of the State of Puebla, formed by 4,000 precariously armed Mexicans, had their first encounter against superior French troops at the Cumbres de Acultzingo. After his resounding victory there, General Lorencez boasted: "We are so superior to the Mexicans in organization, race . . . and refinement of manners, that I am pleased to announce to His Imperial Majesty, Napoleon III, that from this moment on, as the leader of my 6,000 brave soldiers, I can consider myself the owner of Mexico."

On the night of May 3, General Zaragoza arrived in Puebla. Sources vary on the exact number of men under his command, with estimates ranging from 2,000 to 5,000 men. Because he was outnumbered and outgunned, it was crucial that Zaragoza formulate a strong defense to hold the city. Puebla was surrounded by several stone forts, most notably Loreto and Guadalupe, which both stood atop a hill on the northern side of the city. The soldiers fortified Puebla by digging trenches, building breastworks, and repairing the forts as best they could.

Zaragoza then placed his men in strategic points throughout Puebla. Roughly a thousand would defend the northern side and its forts, with the remaining troops kept in reserve to counterattack any direct assault. The plan was set, and now all Zaragoza and his men had to do was wait for the French to arrive.

The Bells of Puebla

Just after 9 a.m. on May 5, the Mexican forces spotted the French enemy on the horizon. Zaragoza and his men sat tight, while Lorencez began his attack. The French plan was to bomb the forts first in order to weaken the enemy's defences and then charge in an all-out assault.

The plan may have seemed sound on paper, but in practice it failed to make much impact. The French began shelling Fort Guadalupe at 11:45 a.m., but the old stone walls held true. Discouraged, Lorencez moved his

STANDING TALL

Below, the watchtower of the Loreto fort. Along with the neighboring Guadalupe fort, Loreto was originally a Franciscan chapel fortified in the early 1800s. Both came under heavy fire from the French during the Battle of Puebla

PAYBACK
Following the French retreat at Puebla, it was only a matter of time before French troops returned to take the city as part of their continued invasion of Mexico. Less than a year after Zaragoza's giant-slaying victory, French troops took Puebla in March 1863, following an attack on the city's San Javier fortress, depicted in this painting by Jean-Adolphe Beaucé.

CHRISTOPHEL FINE ART/GETTY IMAGES

artillery closer, but the angle of the new position made targeting more difficult. By midday more than half their ammunition was gone, with little impact on the forts. It was time to change tactics.

Lorencez ordered his soldiers to attack. The brilliant defenses set up by Zaragoza kept the French at bay. As the soldiers advanced, Mexican guns in the forts fired on them from above. On the ground the ragtag fighters held true, some armed only with machetes and metal-tipped wooden spears. Three times, Lorencez sent in waves of his soldiers, and three times they were turned back. Around 2 p.m. a hard rain began to fall, soaking the battlefield. It was as if Tlaloc, the Aztec god of rain, was displaying his fury against the French soldiers.

With the ground made slick by rain and mounting casualties, Lorencez was forced to retreat. Zaragoza and his men had won the day. The bells of Puebla rang out, and that night the victorious Mexican forces celebrated by singing "La Marseillaise," the song of the French revolution (and now France's national anthem), which was banned at the time by Napoleon III.

MAY PRIDE

A popu ar part of Mexican Cinco de Mayo celebrations 's a reenactment of the Battle of Pueb a In Mexico City res dents dressed as Zacapoaxtla Ind ans and French soldiers (above) re-create the Mexican victory

EDUARDO VERDUGO/AP IMAGES/STRES

There is no denying that the Mexicans fought with courage, but it is equally obvious that Lorencez made costly mistakes, a point made by Zaragoza in the telegram he sent to Juárez immediately after the battle: "The French troops showed their valor in combat and their leader his arrogance, foolishness, and clumsiness."

Lorencez made two major misjudgments: First, he concentrated his attack on the city's well-defended forts, instead of making for the city, which was more vulnerable. The other miscalculation was to position his cannons over a mile from the fortifications, much too far away for the projectiles to strike with full force. When Napoleon III heard of his incompetence, he immediately relieved him of his command.

Dispatches from the Front

While the battle raged in Puebla, in Mexico City the Juárez government waited desperately for news. Zaragoza's silence made the president fear the annihilation of his forces. But just after 4 p.m. Zaragoza sent a laconic telegram informing that "the enemy has showered us with

ERICH LESSING/ART RESOURCE, NY

COUP DE GRACE

ÉDOUARD MANET'S "Execution of Emperor Maximilian" (Kunsthalle Mannheim, Germany) is an unsettling, ambiguous depiction of the violent conclusion of French interference in Mexico in 1867. There is pity for the condemned man, and perhaps criticism for the manner in which Napoleon III had sacrificed this puppet king to his ignominious death. In any case, with this execution, European colonial activity in Mexico—which had begun in 1519—was now at an end.

grenades. Their columns attacking the Loreto and Guadalupe hills have been repelled and we were probably attacked by four thousand men. All their push was towards the hill. Then their columns retreated and our forces advanced towards them. A heavy storm then started."

He said nothing, however, of the final result. Zaragoza's next telegram, arriving just before 6 p.m., clarified the outcome. Just before 8 p.m. Juárez received the best possible news: "Mr. President. I am very happy with the behavior of my generals and soldiers. They have all performed well . . . Let this be for good, Mr. President. I wish that our dear homeland, now so despondent, is one day happy and respected by all Nations."

The joy was, however, short-lived, and only delayed the inevitable. The Mexicans had tasted victory in this battle, but the French took Puebla two years later, and Juárez's government was defeated. With the support of Mexico's conservatives, Napoleon III imposed the Austrian-Habsburg Maximilian as Mexico's puppet king. Only in 1867, after the United States funded the anti-Maximilian resistance, was Juárez restored as president, and Maximilian executed.

Ignacio Zaragoza would never live to see the French expelled from Mexico. At only age 33, he died of typhus four months after the famous victory. To honor his memory, Juárez decided to join his name to the city that had brought him fame, renaming it Puebla de Zaragoza. In June 1867, after returning to power, Juárez also commemorated the battle itself by declaring May 5 a national holiday.

Since then, Mexican celebrations of Cinco de Mayo have traditionally been held in Puebla. Visitors flock to the city in May for parades and a reenactment of the famous battle. In the United States holiday observances have grown larger and more widespread. From Los Angeles to New York City, Mexican-American communities celebrate not only a military victory but also a proud Mexican heritage with parades, colorful dancers, traditional music, and delicious food.

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NEW YORK
SKYSCRAPERS RACE

REACHING FOR THE SKY
A view of the burgeoning Manhattan skyline, taken from high over the East River in the fall of 1937. The Chrysler Building (right)—for less than one year, the tallest building in the world—had been overtaken by the Empire State Building (left), six years before

EVERETT COLLECTION/ALAMY/A.C.

GROWS UP TO THE TOP

JONATHAN GLANCEY

STRUCTURE APPEARS TO BE THE RECENTLY COMP… BROOKLYN BRIDGE (RIGHT). IN THE NEXT 60 YEARS, THE NEW YORK CITY SKYLINE WOULD RISE TO SOAR HIGH ABOVE THE BRIDGE.

GRANGER/ALBUM

Ellis Island sits in New York Harbor facing the island of Manhattan. From 1892 to 1954 some 12 million immigrants passed through there on their way to begin new lives in the United States. As more and more immigrants made the Atlantic crossing from Europe, the skyline of the city that greeted them would change radically.

New York had always been a hub of enterprise and activity, but a new jolt of energy flowed through it during this dynamic time. Throughout the 60-plus years of Ellis Island's operation, New York City was transformed into a modern metropolis. New technology, stronger building materials, and abundant labor allowed the towers of Manhattan to rise—growing bigger and taller than ever before. From the New York World Building in 1890 to the art deco masterpieces of the 1930s, the skyscrapers of New York grew to be the tallest in the world, marvels for an optimistic new age.

Looking Up

The architectural race to the sky began in 1854, when inventor Elisha Graves Otis demonstrated his elevator safety brake to curious crowds in New York. No matter how many times a man cut through cables holding the platform high above gasping onlookers, Otis would descend just a few inches before safely stopping.

BIGGER AND BETTER

1890

The **New York World Building** opens in New York as headquarters for the newspaper *New York World*. Standing 309 feet high, it is the world's tallest building.

1913

The **Woolworth Building** (792 feet) is completed. Inspired by European Gothic architecture, the "cathedral of commerce" becomes the world's tallest.

1930

The art deco **Chrysler Building,** at 1,046 feet, is the tallest building in the world. But it will hold the title for less than one year.

1931

The **Empire State Building** opens. Taking its moniker from New York's state nickname, it will reign as the world's tallest building for 40 years.

THE SHAPE OF THINGS TO COME
The first of New York's buildings to rise higher than Trinity Church, the New York World Building, commissioned by press magnate Joseph Pulitzer, was as grandiose as its name. But even the city's (arguably) first skyscraper was not spared the relentless tide of progress. It was demolished in the 1950s to widen vehicular access to Brooklyn Bridge.

THE NEW-YORK HISTORICAL SOCIETY/GETTY IMAGES

NEW YORK, CITY OF THE FUTURE

DIRECTED BY FRITZ LANG and released in 1927, *Metropolis* is considered the first feature-length sci-fi movie ever made. It takes place in a future megalopolis filled with gigantic skyscrapers and elevated railways. It was modeled on New York, whose towers and frenetic activity made European cities—still recovering from World War I—seem shabby and quaint by comparison. Lang visited New York in 1924. His boat docked in the port, where, owing to passport problems, he and his companions had to spend the night onboard. Manhattan's nighttime skyline gave him the idea for the film, he later said. During the following days, he was able to walk around the city and gaze upon its buildings, neon signs, and streets, taking many rolls of photographs.

FUTURIST FANTASY
The iconic poster for Lang's 1927 movie *Metropolis*, depicting a dystopian city in 2026

Along with Otis's elevator, other innovations laid the groundwork for the future. In 1855 Henry Bessemer, an English inventor and industrialist, patented his process for converting pig iron into exactly the kind of strong and low-cost steel that would revolutionize structural engineering and architecture worldwide. Plate glass, produced in volume from the 1850s, and electric lighting in the 1880s, were other essential ingredients in the rise of the skyscraper that was to define New York's skyline.

Technology alone did not create the Manhattan skyscraper. Other equally important forces included a rapidly increasing population, soaring property values, the rise of a white-collar workforce, rivalry, geology, vanity, and greed. When Chicago rose anew after the Great Fire of 1871, it built the first "skyscrapers," a name previously associated with ships' flags, hard-hit tennis balls, and ambitious top hats.

New York entrepreneurs responded in kind—but they had a geological advantage. Where Chicago was built on muddy soil, Manhattan stood on granite. Since much of the city had been laid out from 1811 on a tight, regimented grid, there was little room for ambitious new buildings to grow unless they looked upward.

First Impressions

The first tall buildings to rise in New York City appeared in the late 1800s. Completed in 1890, the New York World Building housed the headquarters for the newspaper the *New York World*. Commissioned by editor Joseph Pulitzer, the 309-foot building was the tallest in the world until the Manhattan Life Insurance Building surpassed it four years later, setting the fast pace and ambitious character of future Manhattan skyscrapers.

New York's architects pushed onward and upward. New skyscrapers rose every few years, jostling for visibility on the skyline. The Park Row Building sprang up in 1899 and would hold the title of New York's tallest building until 1908 when the Singer Building took the crown. These buildings were striking achievements, but perhaps the most stunning was the Woolworth Building.

The excitement of seeing the Woolworth Building from ocean liners made it as much a symbol of New York City as the Statue of Liberty.

VIEW FROM THE TOP
"No urban night is like the night there," wrote poet Ezra Pound of New York, in 1912. "I have looked down across the city from high windows. It is then that the great buildings ... take on their magical powers." Above, an aerial view of Manhattan in the 1930s, taken from the Empire State Building by Leslie Jones

BIGGER GETS BEAUTIFUL

VISITORS TO NEW YORK swoon at the sunburst motif of the spire of the Chrysler Building, and its lustrous chrome-nickel steel finish. Walter Chrysler's masterpiece is prized not only for the engineering prowess involved in building it but also for the elegance and beauty of both its exterior and interior decoration. The lobby is an outstanding example of art deco with a mural on the ceiling depicting human progress. Dedicating his great building to world commerce and industry, Chrysler set out to impress his visitors and his competitors with the international scope of the many beautiful materials he assembled to adorn it: Among its surfaces can be found Moroccan marble, Siena travertine, and the new German stainless steel

FRANCES ROBERTS/ALAMY/AC

ELEVATED STYLE
One of the doors of the 32 elevators in the Chrysler Building, made of exotic wood and decorated with colored, palm-shaped marquetry

In the audio archives of the Ellis Island Immigration Museum are the recorded reminiscences of many immigrants and their experiences. Among them is the lyrical voice of an animated Irishman recalling, in old age, his first glimpse of Manhattan in 1913, when he was 18 years old. Someone had shouted "Land ahoy!" he recounts, and what he saw as he rushed to the deck of his crowded ship was the spired Gothic crown of the Woolworth Building.

At 792 feet, and designed by the architect Cass Gilbert, the Woolworth had become the world's tallest building. Gilbert's client, Frank Winfield Woolworth—founder of the five-and-ten store—paid for this $13.5 million "cathedral of commerce." From its completion, and its first sightings from Atlantic liners, this architectural tour de force was soon as much an iconic symbol of New York City as the Statue of Liberty. It promised freedom and very big dreams. Evidently, New York was a city of opportunity where a young Irishman might walk very tall indeed.

As parts of New York began to resemble man-made mountain ranges, concerns over the nature of skyscrapers grew. From the sidewalks, streets felt increasingly like canyons, an effect exaggerated in snow, fog, and driving rain. To counteract this, from 1916 city zoning laws insisted that tall buildings should recede as they climbed. This gave rise to the distinctive ziggurat or wedding-cake profiles of the golden age of Manhattan's skyscrapers in the 1920s and '30s.

The Race for the Skies

One of New York's most iconic art deco structures, the Chrysler Building, grew taller as moguls competed to have the world's tallest building. In 1928 Walter P. Chrysler, a Michigan motor-industry mogul, got wind of plans by the architect H. Craig Severance, to make his Bank of Manhattan Tower the biggest in the world. Severance's skyscraper was to be 927 feet tall, or just two feet higher than the tower Chrysler was developing with his architect—and Severance's former business partner—William Van Alen. In

With 77 stories, and a height of 1,046 feet, the Chrysler Building broke the New York and world record for the tallest building in 1930.

ICON OF THE PAST AND PRESENT
The burnished curves of the Chrysler Building in a 1930s photograph. Architect William Van Alen's masterpiece was declared an NYC landmark in 1978 for the outstanding engineering and artistic quality of both its exterior and interior.

WORKING FROM HOME
Photographer Margaret Bourke-White at work on one of the eagle-shaped gargoyles on the Chrysler Building, where she had an apartment Rockefeller Center looms behind her

TIME LIFE/GETTY IMAGES

secret, Van Alen devised a spire for Chrysler's building that, hidden inside the structure, was revealed only at the very last moment. Up it went in just 90 minutes, making the 77-story Chrysler Building the world's tallest, at 1,046 feet high.

The Chrysler Building was one of the first skyscrapers to use metal on the exterior, which gave it its famous shine. Much of building's distinctive ornamentation refers back to the automobile, where Chrysler made his fortune. Hubcaps, gargoyles in the form of radiator caps, car fenders, and hood ornaments decorate the outside. Perhaps most distinctive are the metal eagles that grace the corners of the 61st floor.

The Chrysler Building's time at the top would be short. Just 11 months after the Chrysler's completion in May 1930, the 102-story Empire State Building became the world's tallest building. It occupied an entire city block on Fifth Avenue and was opened by U.S. president Herbert Hoover to great acclaim, if little business. At 1,250 feet, the limestone-clad tower just about matched the ambition of the high-rolling New York financier, John J. Raskob, who commissioned the legendary skyscraper from the architects Shreve, Lamb and Harmon. "How high can you make it so it won't fall down?" Raskob asked William Lamb.

What fell at the time was the American economy. Wall Street crashed as the Empire State Building rose at record speed, and the United States was plunged into the Great Depression. Not even the building's famous appearance in the 1933 RKO feature film *King Kong* could boost the fortunes of what appeared to be Raskob's folly. Unable to find tenants, Raskob's magnificent structure was mockingly dubbed the "Empty State Building."

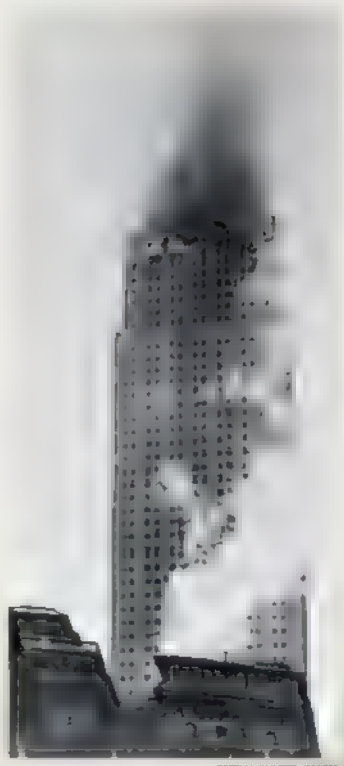
It took World War II to fill the building with government agencies. Even then, a B-25 Mitchell bomber did its best to bring it down, crashing—accidentally—between the 78th and 80th floors in swirling fog on July 28, 1945, and killing 14 people. Five years later, the Empire State Building finally turned a profit. The building itself was an architectural marvel, remaining the world's tallest skyscraper for 40 years.

Unable to find tenants, John J. Raskob's magnificent Empire State Building was mockingly dubbed the "Empty State Building."

THE LAST OF ITS KIND
The Empire State Building was the tallest building in New York City and the world for 40 years.

SKYSCRAPER SURVIVES FIERY CRASH

ON JULY 28, 1945, a B-25 Mitchell bomber was flying from Boston to Newark. Flying was hazardous that day, with low cloud cover and fog. The pilot ignored the control tower's warnings to change course and flew through New York City. He lost his bearings and crashed into the north side of the Empire State Building. The impact opened up a gaping hole around 900 feet up, between floors 78 and 80. The three crew members and 11 people inside the building died. The entire building shook, but matters could have been a great deal worse: In their book *Why Buildings Fall Down*, engineers Matthys Levy and Mario Salvadori suggest that if the plane had directly hit one of the skyscraper's pillars, the whole tower could have collapsed.



BETTMANN/GETTY IMAGES

A DARK DAY
In the 1945 accident one of the plane's engines was sent flying through the air, landing on the roof of a nearby building, starting the fire shown in the photograph.

A Modern Age

In the years following World War II architecture in New York transformed again. The newest buildings did not aim to be the tallest and favored a new sleek, modern look. Clean lines and gleaming surfaces would be the look of the new skyscraper. Completed in 1952, the United Nations Secretariat Building was constructed in this streamlined style on the site of a former slaughterhouse facing the East River. Designed by the Swiss architect Le Corbusier and the Brazilian architect Oscar Niemeyer under the direction of Wallace Harrison—who had played a key design role in the development throughout the 1930s of the charismatic Rockefeller Center—this was Manhattan's first curtain-walled skyscraper. The slim, relentlessly geometric tower was like nothing the city had seen before.

The trend toward modern lines continued into the 1950s. With the completion in 1958 of the Seagram Building on Park Avenue, designed by Ludwig Mies van der Rohe, rectilinear office buildings were to become the norm. The bronze-clad and meticulously crafted structure was neither the tallest nor the biggest building in the city. It was, though, the apotheosis of mid-century Park Avenue cool, as elegantly dry as the martinis Mies van der Rohe drank at lunchtime. Standing in its own custom-designed plaza, the Seagram Building became a model for countless, lesser, straight-up-and-down office towers built around the world from the 1960s onward. Skyscraper architecture in New York became rather uniform as stepped towers, spires, and spirited decorative details all fell out of fashion.

Le Corbusier is often cited as the villain behind this move away from more intricate architecture, yet when he visited New York in 1935 and witnessed the physical impact of skyscrapers for the first time, he said: "The skyscrapers of New York are romantic, a gesture of pride, and that has an importance of course. But the street has been killed and the city made into a madhouse."

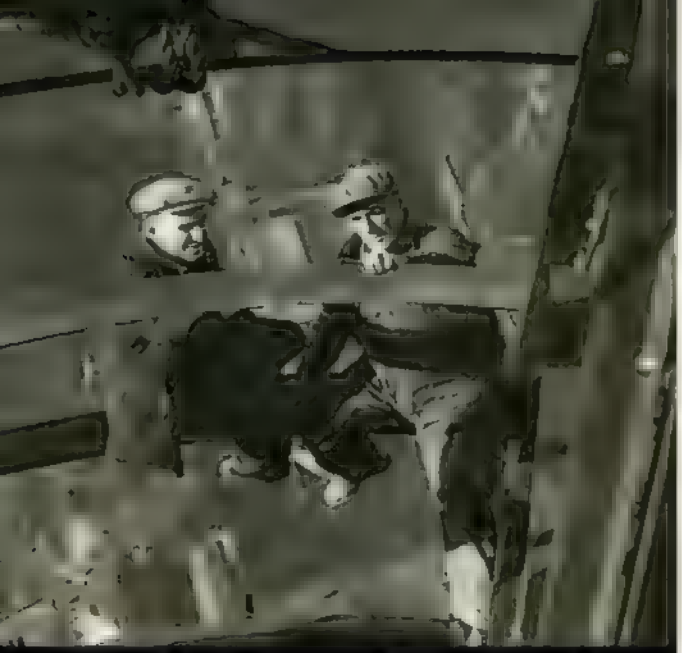
Today his observation hardly seems true: Manhattan's skyscrapers failed to kill the street—for the most part, New York City remains one of the world's great walking cities. Manhattan's avenues and streets are lined by towering giants born of a golden age of unbounded opportunity and ambition reflected in the gleaming architecture of the era.

JONATHAN GLANCEY WAS ARCHITECTURE EDITOR FOR THE *GUARDIAN* UNTIL 2012. NOW HE REPORTS ON ARCHITECTURE AND DESIGN FOR THE BBC.

STRAIGHT UP-AND-DOWN

The pared-down e egance of the Seagram Bui ding, viewed from Park Avenue, looking south Designed in 1958 by Mies van der Rohe, the glass-enclosed bronze tower inspired many copycat versions in the skyscraper boom of the 1960s

BETTMANN/GETTY IMAGES



WORKMEN INSPECT A GIRDER IN THE LATER STAGES OF THE CONSTRUCTION OF THE EMPIRE STATE BUILDING IN A 1931 PHOTOGRAPH BY LEWIS HINE.

MEN WORK ON THE LOWER PART OF THE EMPIRE STATE BUILDING IN A 1930 PHOTOGRAPH BY LEWIS HINE.

THREE WORKERS CAREFULLY PLACE A GIRDER IN LOWER MANHATTAN IN THIS UNIDENTIFIED PHOTOGRAPH FROM AROUND 1920.

FROM TOP TO BOTTOM: NEW YORK PUBLIC LIBRARY/GRIDSKANAGI BRIDGEMANIMAGE/AGE FOTOSTOCK

STEELWORKERS IN THE SKY

Thousands of men worked on piecing together the steel skeletons of Manhattan's emerging skyline. Many of these laborers were newly arrived Europeans, in search of the American dream, while many others were native Mohawk American Indians from New York State. A 1949 feature in the *New Yorker* described the Mohawk workers building a bridge: "[They] are as agile as goats. They would walk on a narrow beam high up in the air with nothing below." All of the skyscraper workers had to be comfortable with heights. They had to be agile and fearless, climbing hundreds of feet without any modern safety precautions. Their wages were comparatively high, and they were widely admired. As early as 1908 journalists such as Ernest Poole wrote articles praising these "cowboys of the skies." By the time the Empire State Building rose throughout 1930 and 1931, the view from the sidewalk must have been spectacular: In the course of just over a year, the site swarmed with 3,000 workers, who added 4.5 floors to the structure every week. Photographers such as Lewis Hine and Charles Ebbets later immortalized these sure-footed laborers, although it is not known who took the iconic 1932 image "Lunch Atop a Skyscraper," which shows several European immigrants and at least one Mohawk enjoying a break on a girder. While this photograph has grown famous, the identities of most of the workers remain a mystery.

"LUNCH ATOP A SKYSCRAPER," AN ICONIC 1932 IMAGE. PHOTOGRAPHER UNKNOWN. BETTMANN/GETTY IMAGES

TAKEN ON FEBRUARY 2 1912 BY IRVING UNDERHILL, THE IMAGE ABOVE SHOWS THE EMERGING STRUCTURE OF THE WOOLWORTH BUILDING, WHICH OPENED ON APRIL 24 THE FOLLOWING YEAR. LIBRARY OF CONGRESS/GETTY IMAGES

A WORKMAN, POISED ABOVE LEXINGTON AVENUE, WAVES FROM A GIRDER ON THE CHRYSLER BUILDING IN 1929.

BLUE DIES ARCHIVE/VALUIUM

Tiwanaku, Cultural Cradle of the Americas

The mysterious Bolivian site puzzled visitors for centuries until patient scholarship revealed Tiwanaku as the center of a lost, pre-Inca culture.

On the shores of Lake Titicaca and surrounded by three mountain ranges, the site of Tiwanaku in Bolivia pulses with mystery. The capital of this enigmatic pre-Columbian civilization contains structures that have puzzled people for years. Among them are a sunken temple studded with stone heads, and the magnificent Puerta del Sol, the Gateway of the Sun, carved out of a single 10-foot-wide block of stone.

Thanks to careful conservation, the ruins of Tiwanaku, a UNESCO World Heritage site since 2000, have been preserved from destruction. Painstaking efforts by a succession of archaeologists have unlocked some, if not all, of the secrets

of its strange monuments, shedding light on a culture that thrived on the Bolivian high plains from the sixth to the 10th centuries A.D.

A Slow Reveal

Tiwanaku, which lies just over 40 miles from the Bolivian capital La Paz, has not so much been discovered as slowly revealed. The first recorded European account of the site was by Pedro de Cieza de León, a young Spanish chronicler and conquistador.

"Tiwanaku . . . is renowned for its remarkable buildings, which are a sight to see," Cieza de León recorded in 1549. The "man-made hill built on great stone foundations" of which he wrote is now identified as the Pyramid of Akapana, a 59-foot-high structure, which modern historians believe was once dedicated to sun worship. Only later would archaeologists determine that another "finely built" structure he saw there, the Kalasasaya temple, was designed to track the progress of the solar year.

Cieza de León chronicled his impressions of this mysterious place a few years after Spanish forces toppled the Inca Empire. On asking indigenous people who had built Tiwanaku, he was told that the settlement long predated the Inca. The first European to see the site, Cieza de León was also the first to grasp its antiquity.

LAKE TITICACA IN AN ENGRAVING IN PEDRO DE CIEZA DE LEÓN'S *CHRONICLES OF PERU*, PUBLISHED IN ANTWERP IN 1554
RANGER/ALBUM

1549
After Spain crushes the Inca, **Pedro de Cieza de León** describes Tiwanaku's monuments.

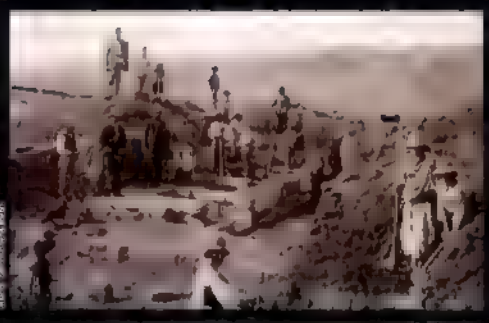
1892–1935
In a string of works, **Max Uhle** defines a "Tiwanaku style," whose influence marked the region.

1903
Georges de Créqui-Montfort obtains the first official excavation permit to dig in the Tiwanaku ruins.

1932
Wendell Bennett starts excavating. He proposes Tiwanaku was more of a cultic center than a city.

THE FRENCH MISSION

THE FIRST FORMAL excavations in Tiwanaku were led by French archaeologist Georges de Créqui-Montfort, in 1903. The archaeologist put an end to the destruction of the site, whose stones were being used to build railroad tracks and bridges. Below, Créqui-Montfort (center) with his team of workers at the ancient site.



A Culture Emerges

Fired by the new discipline of anthropology, Thaddäus Haenke, a Czech naturalist and geographer, participated in the Spanish scientific expedition to South America, which set off in 1789. Conducting a survey of the site, Haenke drew the first known sketches of Tiwanaku.

In the 19th century many other European and American scholars followed in his footsteps. Some historians elaborated theories on the site based on prejudice toward the Aymara-speaking indigenous peoples of the area. French scholar Francis de Laporte de Castelnau, for example, proposed Tiwanaku was built by Egyptian pharaohs. His basis for this ludicrous theory was that he did not believe it possible that such complex structures could be raised by "the

THE GATEWAY OF THE SUN, shortly before restoration by the French archaeological mission of 1903. In the center, a stone relief of the Tiwanaku creator god, forerunner of the main Inca deity, Viracocha.

ADOC-PHOTOS/ALBUM

imbecilic race that inhabits the country today."

At the other end of the ideological spectrum, meanwhile—as swaths of Central and South America declared independence from Spain—the site became an important symbol onto which the continent's emerging nations projected their hopes and desires. In 1848 future president of Argentina Bartolomé Mitre passed through Tiwanaku at a time of great political upheaval. Inspired by his visit, he published an emotionally charged book about the experience, seeing the place as a symbol to fuse the continent's great past and dynamic present.

Studying the Site

Major modern archaeological excavations at Tiwanaku began in 1903, when the French archaeologist Georges de Créqui-Montfort was granted the first official permit to excavate there. He arrived at a dark moment for Tiwanaku: The railroad from La Paz had just been built through the site, causing irreversible damage. Engineers had destroyed structures and robbed stones from buildings to use for railroad infrastructure. Appalled, Créqui-Montfort did what he could to preserve the ruins, but despite his good intentions, his inexperienced team caused damage of their own through poor excavation methods.

German scholar Max Uhle was fascinated with this ancient city as well and had begun his studies in the late 19th century. An assistant at the Ethnological Museum of Berlin, he studied the Andean collections housed there. At first Uhle was denied an excavation permit to dig at Tiwanaku, so he went to Peru instead. There, he dug sites on the coast, such as at the Necropolis in Ancón and the Pachacamac Sanctuary, where he discovered ceramics very similar to those found in Tiwanaku. Little by little, he uncovered a relationship between the coastal

RITUAL CUP DECORATED WITH A FELINE HEAD, FROM TIWANAKU.

BPK/SCALA, FLORENCE

Based on the resemblance between the pottery of the plateau and the coast, Uhle proposed a common "Tiwanaku style."

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Humanlike figure holding ritual objects. Fifth-ninth centuries. Metropolitan Museum, New York
Head, perhaps representing a captured warrior. Undated. Quai Branly Museum, Paris
Silver diadem, decorated with a Viracocha-style head. Sixth-10th centuries
Funerary cup with a puma's head. Fifth-11th centuries. Quai Branly Museum, Paris
Ritual, head-shaped drinking cup. Seventh-10th centuries. Quai Branly Museum, Paris
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1. SCULPTURE, ETHNOGRAPHIC MUSEUM, BERLIN. ART. 2, 3, AND 4. CLAUDE GERMAIN/RMN-GRAND PALAIS (MUSÉE DU QUAI BRANLY-JACQUES CHIRAC)/ART RESOURCE, NY. 5. SCALA, FLORENCE

artifacts of the Wari culture and those on the plateau, which proved that a common culture linked the coast and Tiwanaku.

Solar Power Center

Uhle believed that Tiwanaku predated the Inca and produced a highly influential "Tiwanaku style" in its artworks and material culture, a theory that still holds today. Flourishing from around the sixth century onward, it is thought the settlement's area of influence reached into what is today Peru, Bolivia, and Chile.

Building on Uhle's painstaking research, American archaeologist and anthropologist Wendell Bennett did much to restore and conserve Tiwanaku's ruins in the 1930s. Bennett's conclusions remain somewhat controversial. For instance he argued that the site was not heavily populated and was more of a ceremonial center than a city. Some historians disagree and assert that Tiwanaku had a significant urban population with more than 100,000 inhabitants.

It is clear that the site did have a crucial religious function. The Gateway of the Sun, believed to date from around A.D. 300, is topped with nearly 50 relief carvings of winged creatures in feathered headgear. At the center, over the entrance itself, is the creator deity, an early version of the supreme Inca god, Viracocha.

The Kalasasaya temple may date from a little earlier. Formed around a sunken courtyard, it is constructed to track the progress of the solar year, and its main entrances align with the sun during both equinoxes.

The Pyramid of Akapana is thought to have been built somewhat later than the gateway and temple, perhaps nearer A.D. 700. There are signs that building work was suddenly abandoned in the 900s, although why that happened—and many other questions about the site—remain unresolved. What is clear, however, is that the Inca regarded Tiwanaku as a spiritual reference, and desired to establish themselves as the heirs of its greatness.

—Adriana Baulenas

In its heyday Tiwanaku's influence reached deep into what is today Peru, Bolivia, and Chile.

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Next Issue

QUEEN ELIZABETH I, FLANKED BY SCENES OF THE ROUT OF THE SPANISH ARMADA, IN A 1588 PAINTING ATTRIBUTED TO GEORGE GOWER. WOBURN ABBEY, BEDFORDSHIRE, ENGLAND

BRIDGEMAN/ACI

BATTLE OF THE SEXES

ELIZABETH I'S dragon-slaying victory over the Spanish Armada in 1588 was the culmination of a bitter rivalry between the Protestant queen and Philip II, the Catholic king of Spain. But Elizabeth and Philip were not always enemies. Years before, the two had considered marriage. Philip needed Elizabeth to maintain control of England and to check the power of France, while Elizabeth could use Philip to curb her younger half sister, Mary, Queen of Scots. Religious strife and competition for colonies would turn the allies to enemies, whose clash dominated European history.

DEATH OF A DYNASTY

ON A SUMMER evening 100 years ago, the deposed Russian tsar Nicholas II, Tsarina Alexandra, and their four daughters and son were herded into a basement in Yekaterinburg. There, Bolshevik soldiers shot and stabbed them to death. Their grisly demise ended three centuries of Romanov rule in Russia, which was straining under the mounting pressures of modernity and class conflict. Forensic studies of the family's remains shed light on the brutal circumstances of their execution that authorities had attempted to conceal, and whose causes and consequences still deeply trouble Russian society.

THE ROMANOVS IN A FAMILY PORTRAIT IN 1913

LDC/PHOTO RESEARCHERS/AGE FOTOSTOCK

Slaves in the Time of Socrates

Ancient Athens may have been the birthplace of democracy, but its prosperity came from a dark place: slavery. Ancient Greece had a large enslaved population who labored in homes, fields, and mines to build up the prosperity of their masters.

The Striking Faces of the Faiyum

Near Egypt's Faiyum Oasis in the late 1800s archaeologists stumbled on hundreds of ancient funerary portraits. Wrapped in the bandages of the mummies, these startlingly lifelike and colorful portraits offer vivid insights into the everyday Egyptians who lived during Roman rule.

China's Greatest Admiral, Zheng He

Few expected a young Muslim captive enslaved by Chinese forces in the late 1300s to rise and become one of the greatest explorers of all time. In 1405 Zheng He led the first of seven extraordinary voyages, venturing as far as east Africa and Egypt and forging an era of maritime dominance for China.

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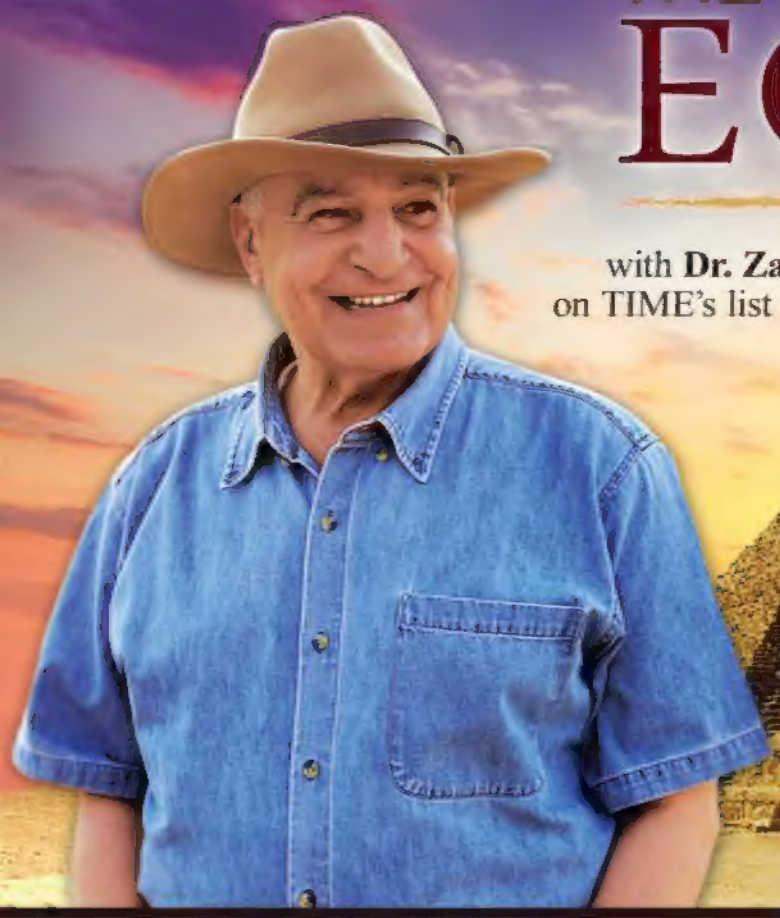

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